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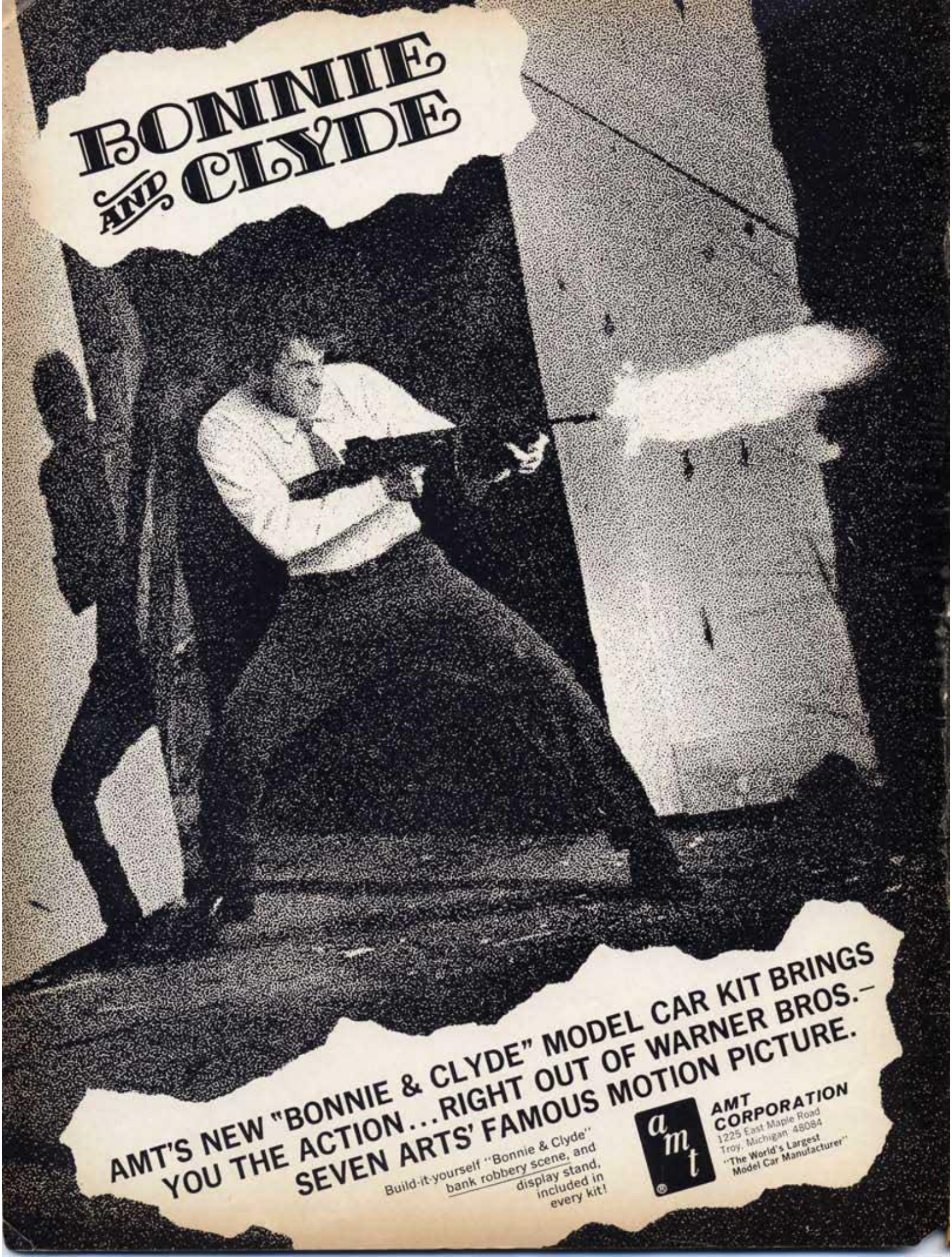

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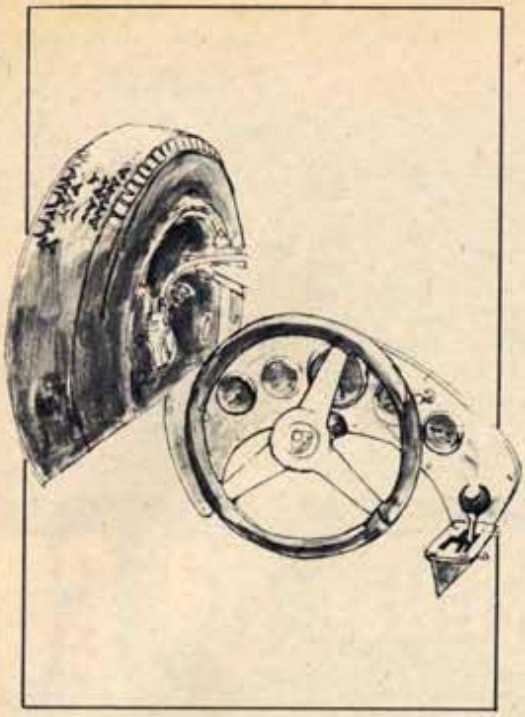

MODEL CAR & SCIENCE

Volume 6, Number 6 **June, 1968**

ON THE COVER—Don Emmons' ultra-realistic Woody is just something else again! Check it out on page 11. Jonathan Williams hurtles along in the Can-Am P-4 Ferrari. Next month watch for an exciting "How To" article on scratch-building this car!

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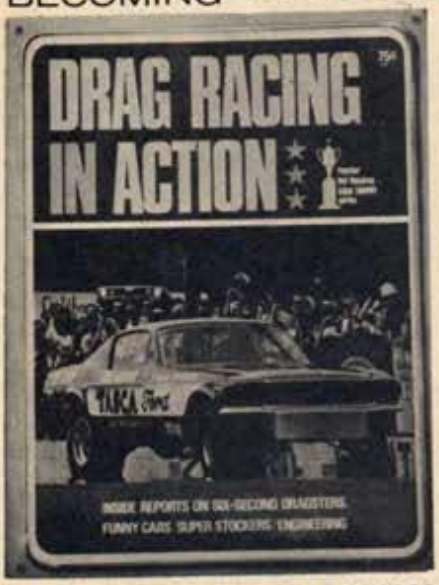

DRAG RACING IN ACTION

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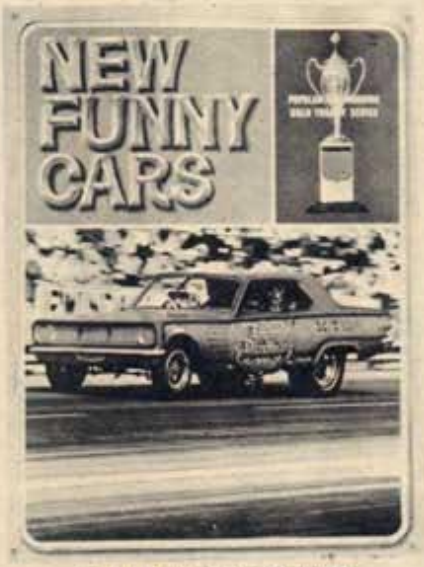

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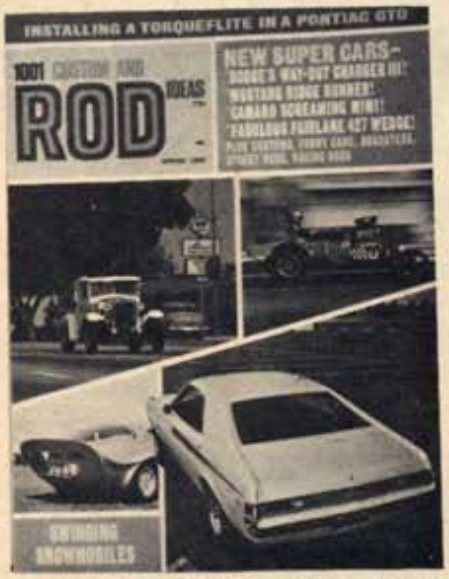

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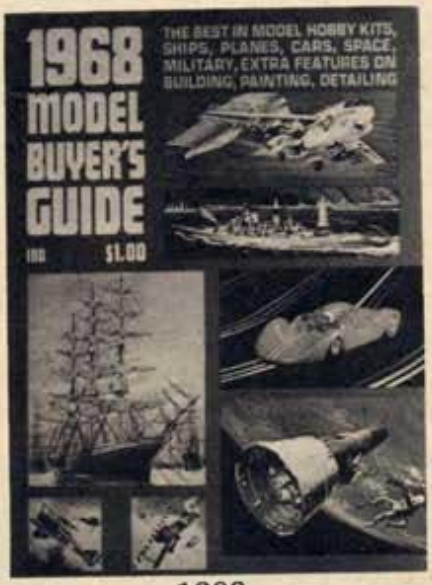

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model mail

HOW DO YOU CHOP A TOP?

Like, every time I try to chop a top, it looks like I've been tipping the jug before I got going! This thing is driving me nuts! Just how do you go about chopping a top, and make the parts match up?

Felix Vallejo
San Jose, Calif.

Check this issue, Felix. Don Emmons shows you not only how to chop a top, but how to section a body, and bob fenders as well. And we'll be running a lot more articles like this in future issues. Your best bet is to subscribe to MC&S. You'll find our subscription ad elsewhere in this issue. It's the only way you can be sure of getting this information-packed mag each month, and you'll get it quite a ways ahead of the fellows who buy it on the news stands too.

CAN GIRLS ENTER?

I'd like to enter your monthly model contest. Can girls enter? If so, how do I go about it? Do I send my model car in, or just photos, or what?

Sandra Dennison
Monterey, Calif.

Sure girls can enter! Just send a description of your model, along with sharp black and white photos (no color shots please, we can't use them) of the model to The Editor, Model Car & Science Magazine, 129½ South Barrington, Los Angeles, Calif. 90049. Do not send the model in. Don't worry about the size of the photo. If it's a good sharp shot, we'll take care of blowing it up (no, we don't need the negatives) for use in the mag. Incidentally, as fine as the little Polaroid "Swinger" is, it just doesn't work for the average guy when it comes to shooting pictures of small model cars. We get dozens of photos that were shot with this camera, and none of them have been good enough to use. The shots must not be blurred, or too dark. Send only good, sharp, black and white photos please. And good luck!

GOOD MAN, MILT HEGER!

Here's a bit of free advice. I've found that sample furniture upholstery from pattern books makes great upholstery material for models. Just ask your nearest furniture salesman if he has some old pattern books. Your mag's groovy. Keep those articles coming, man!

Milton Heger
Jersey City, N.J.

Milton Heger for Prez! Thanks, faithful reader, we're passing your great tip along to the rest of the guys.

1/32 SCALE FOREVER!

I'm delighted to see the great 1/32 scale articles in each issue of MC&S. Even the die-hard 1/24 scale buffs have to admit that there just aren't too many places left to race. And if there are no race tracks for 1/24 scale cars in town, there's only one thing left to do – build your .own track and start racing HO or 1/32! Personally I (and my friends) prefer 1/32 scale. We're in the process of building a good home track right now, using Rayline's "The Art Of Track Building" as a guide. When we're finished, we want to run our club name and address in your new club directory. Thanks again, and keep those 1/32 scale articles coming!

Fred Michener
New York City, N.Y.

Thanks for the kind words, Fred. Our new club directory will make its first appearance in next month's (July) MC&S. Watch for it. This directory will list the name and address of each club, plus the name of the "head honcho" and a telephone number when possible. Clubs always need new members, and we feel that the best way to help the sport is to run a directory each month. If you move into a new town, the list should be very helpful. Just look up the phone number of the club nearest you, and give them a call! Incidentally, for the benefit of our other

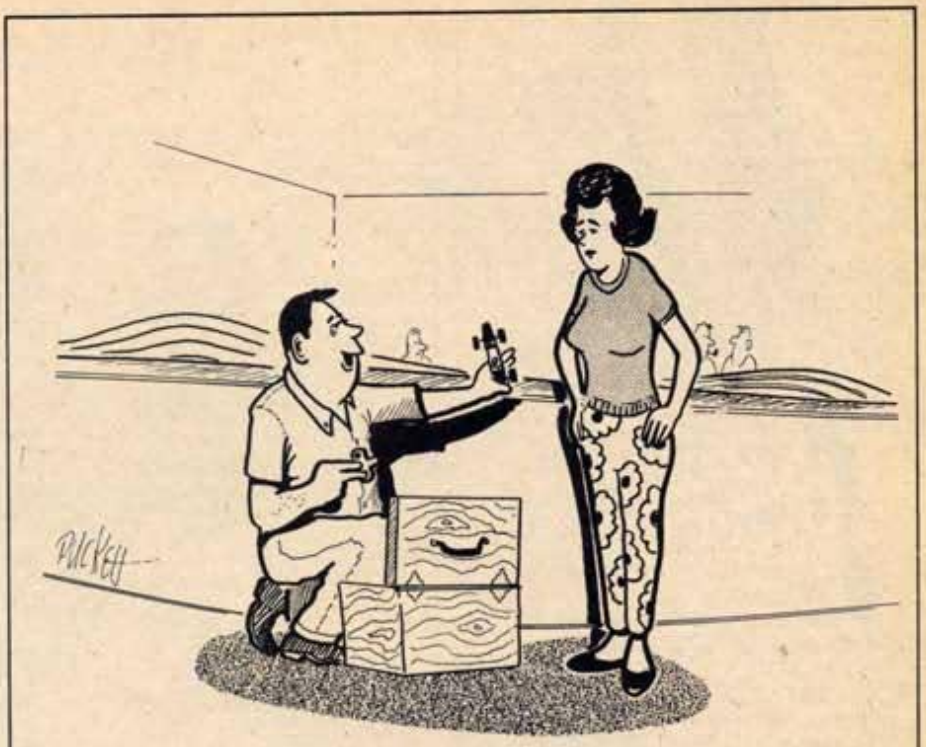
readers, the manual you referred to ("The Art of Track Building") is available for $2.00, plus 50¢ handling from Rayline, PO Box 1738, Thousand Oaks, Calif. 91360. It completely describes how to build a home slot track. And another manual, "The Rayline Portfolio of Track Designs" offers a dozen home track designs, and a wiring diagram for $2.00.

DIGS THOSE DRAWINGS

The tremendous drawings of cars in your recent issues are really great! Tell the artist to keep them coming. They make great looking "mood" shots for the wall of my den!

Tom Orthello
Birmingham, Ala.

The artist you refer to is Chuck Queener, our Art Director. Chuck is a talented fellow indeed, and his drawings look so good because he loves cars. Chuck is a slot racer, and he's also going through a competition driving school at Willow Springs Raceway, here in California. He plans to get into formula racing very soon. As we've told you all along, MC&S staffers are enthusiasts, one and all.



"For your first slot car race, I'll let you use this car and this windup key . . ."

"Either of you guys leave a rat trap in lane 4?"

"I'm sorry I broke your fastest car; take this five dollars and buy a new one . . ."

"It's a 1/32 scale model of my very first car . . ."

"If you guys don't stop violating our air space, you know what'll happen!"

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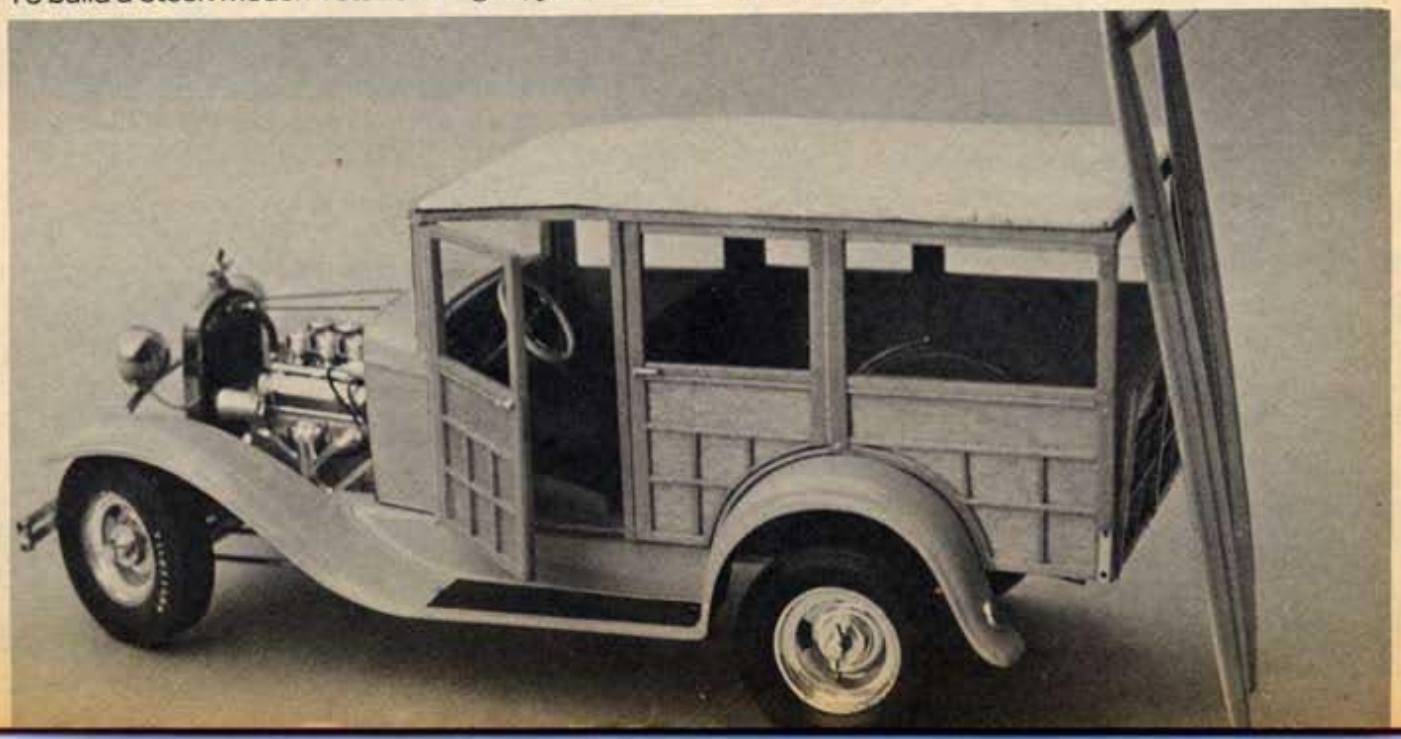
EMMONS' COVER CAR

Here's how to add *real* wood to Monogram's "Woody!"

It just isn't possible to make the "Woody" plastic body look like real wood panels. That is why I made a new Woody body from very thin plywood sheets. The plywood used is 1/32-inch, five-ply hardwood which comes in 6 x 12 inch sheets. Basswood (hardwood) strips are used for fabricating the body details. Hardwood is used because it is much easier to work with and gives a much more realistic appearance.

Next month I'll show you how to build a wild Woody. If you are a station wagon fancier, be it stock or a surfer's dream, you won't want to miss our next issue.

"Surf woody" started from Monogram's Woody Wagon kit, but real wood replaces the station wagon body panels. All four doors and tailgate are hinged.
To build a stock Model A station wagon, you must also use Monogram's '30 Model A Coupe kit. Kit side panels were used as patterns for new wood body. Rear seat is a roadster unit with the back filled in. Jump seats are from the AMT '32 Victoria kit.



EMMONS BUILDS A FUNNY CAR

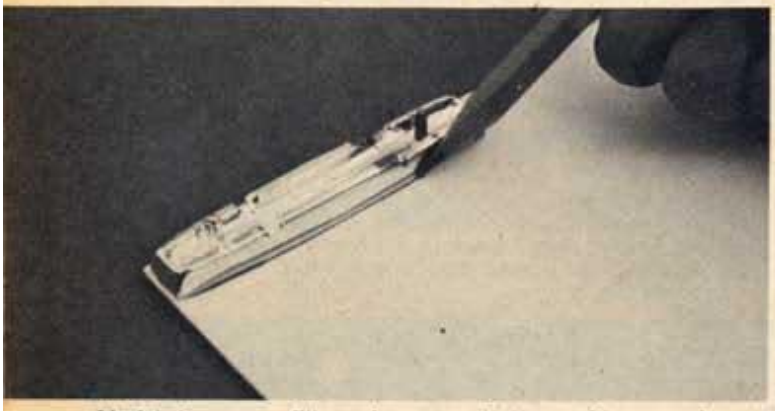
Duplicating Roger Lindamood's "Color Me Gone"

By Don Emmons

The "Color Me Gone" Funny Car kit is one of the best of its kind, mainly because of its chassis. Whether you plan to build this car, or use the chassis for the main portion of another Funny car, you'll find it to be ideal. The chassis unit is a replica of the Logghe chassis which a great many Funny cars use.

I had a special interest in building this one as Roger is a personal friend of mine. In addition to that, he was in California running at the local strips during the winter months. This gave me access to the car at all times, and made it possible for me to duplicate it exactly. Roger stood guard over my workbench, puffing on his cigar, giving pointers, and trying to speed me on.

The only difficult part of this model will be the hand lettering. There isn't much help I can give you there except to tell you to pay close attention to the photographs.

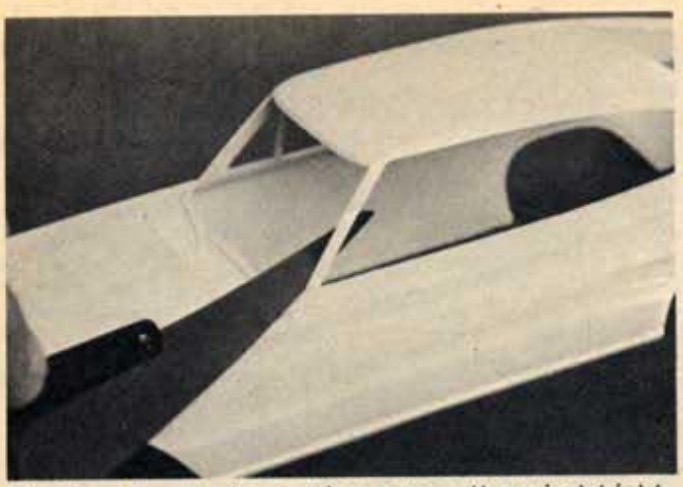


1) Make up a filler piece to fit the grille opening. Lay stock grille unit on a piece of 1/16th-inch sheet plastic, and mark around it.

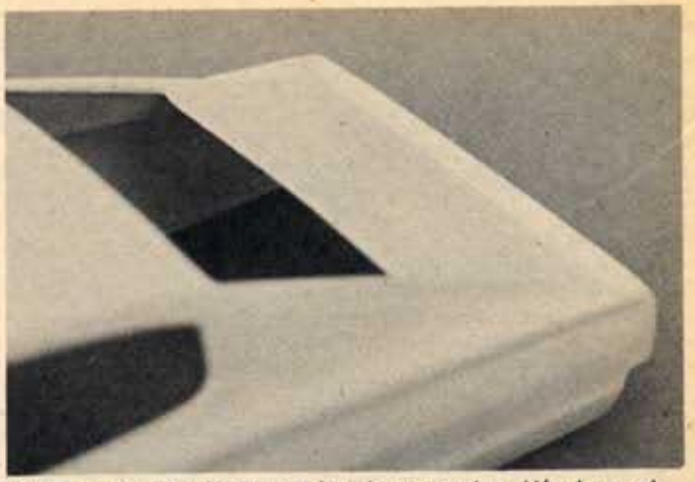
2) After piece is out and filed, bend it to the contour of the hood-fender line. Check it for proper fit.

3) Trim off all the chromed portions on the body (lettering, numbers, chrome strips, etc.). File and sand these areas smooth.

4) Cut away the plastic door vents, leaving a wide open window area. Work carefully to cut away only the vent portion.



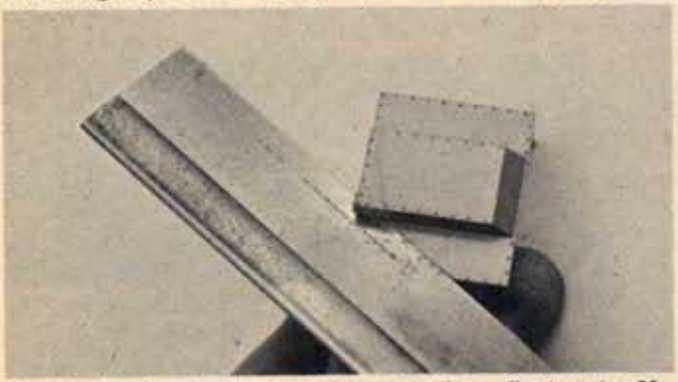
5) Chop the top by cutting across the windshield post. Then cut a ⅛-inch section off the post. Repeat on the other side.



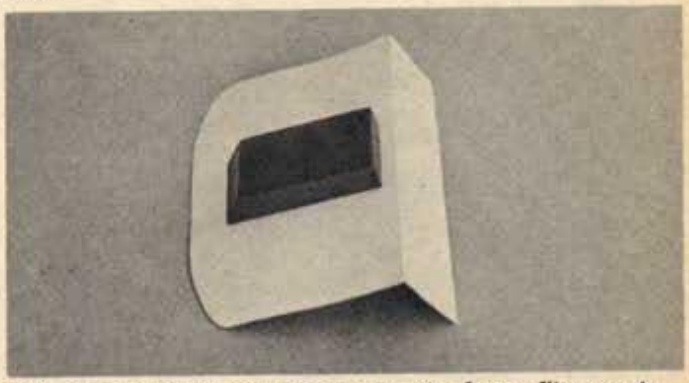
6) The spoiler is glued in place and puttied up at each end. Gas cap area should also be puttied.

7) Finally the body is ready for paint. Windshield wipers were removed and puttied over. Windshield posts have been glued back together. Use masking tape to hold top in place while drying.

8) The windshield and back glass will have to be cut apart, with windshield worked over to fit the new size. Cut the vent glass from the windshield unit.



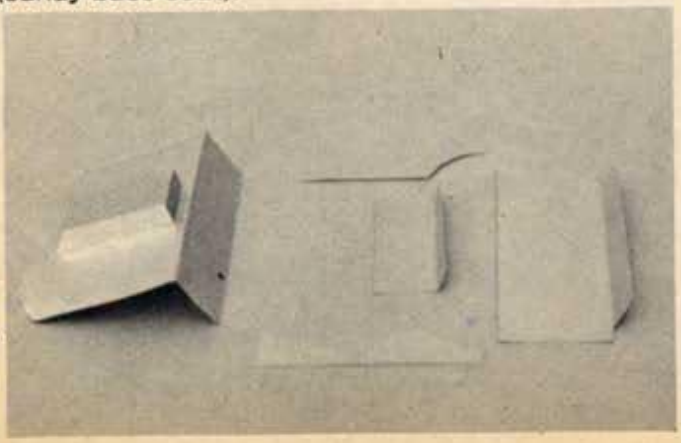
9) To duplicate the interior paneling, first cut off the raised area flat with the base.

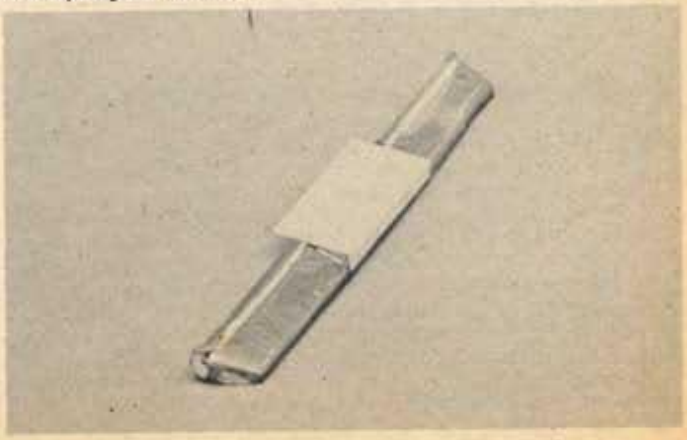


10) The engine cover was made from file card. The plastic unit was glued to this.

11) Interior paneling is made from file card, using patterns supplied in this article. Spray them silver (candy base coat).

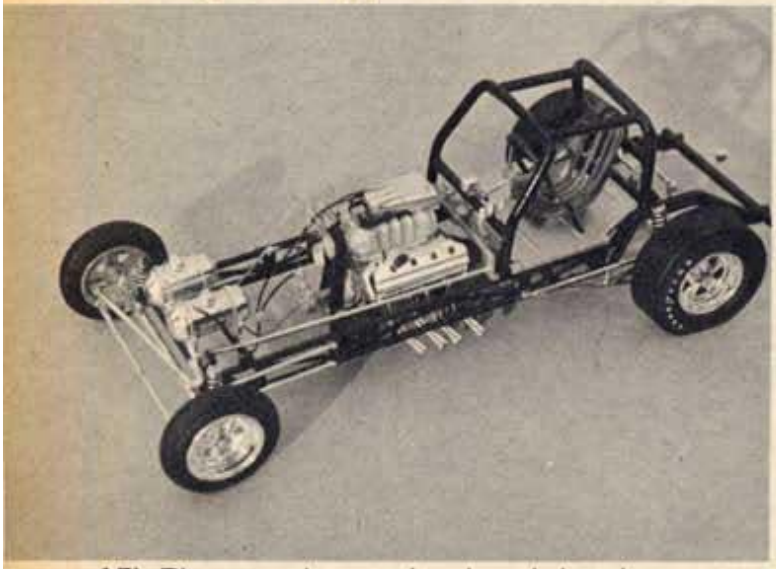
12) A piece of file card was used for the chute mounting plate. This is glued to the stock bumper and sprayed silver.



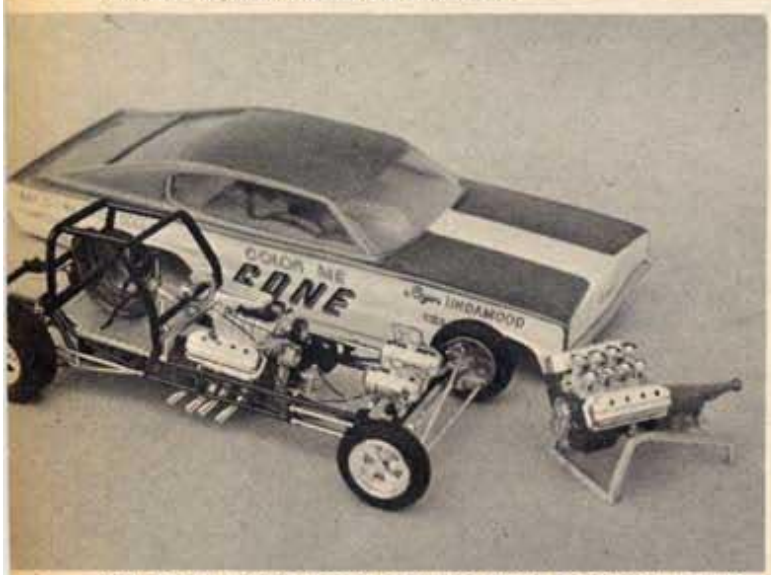


Photos by Don Emmons

13) The letters on the red plastic taillight lenses should be painted with Pactra's Chrome-Silver. The chromed taillight housing should be glued to the body before it is painted.



15) Blower setup and exhaust headers were taken from AMT's Piranha kit. Steering linkage is moved to the inside of chassis.

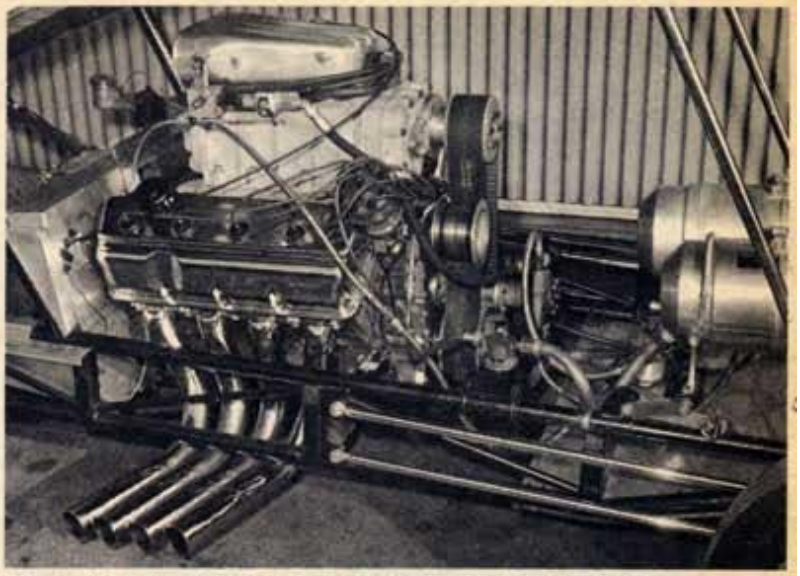


17) Now we're ready for the final assembly. The stock kit injected engine is at right with the injectors cut down. Injected engine was placed at same location as the new blown one.

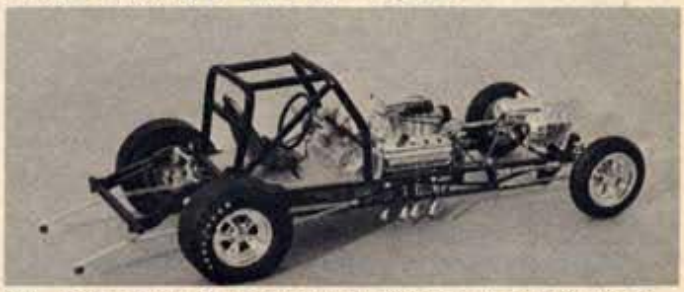
19) "Snavely & Langford Dodge" and "Fit For A King" will have to be hand lettered. Car is blue metalflake and white. Bumpers are painted silver.

20) Windshield is clear, but side and rear windows are blue plastic. Body sets quite low in front to discourage it from raising at high speeds.

21) Gloss white was sprayed on first. When it was thoroughly dry, the white area was masked off and the blue flake sprayed on. "Charger" lettering is black.

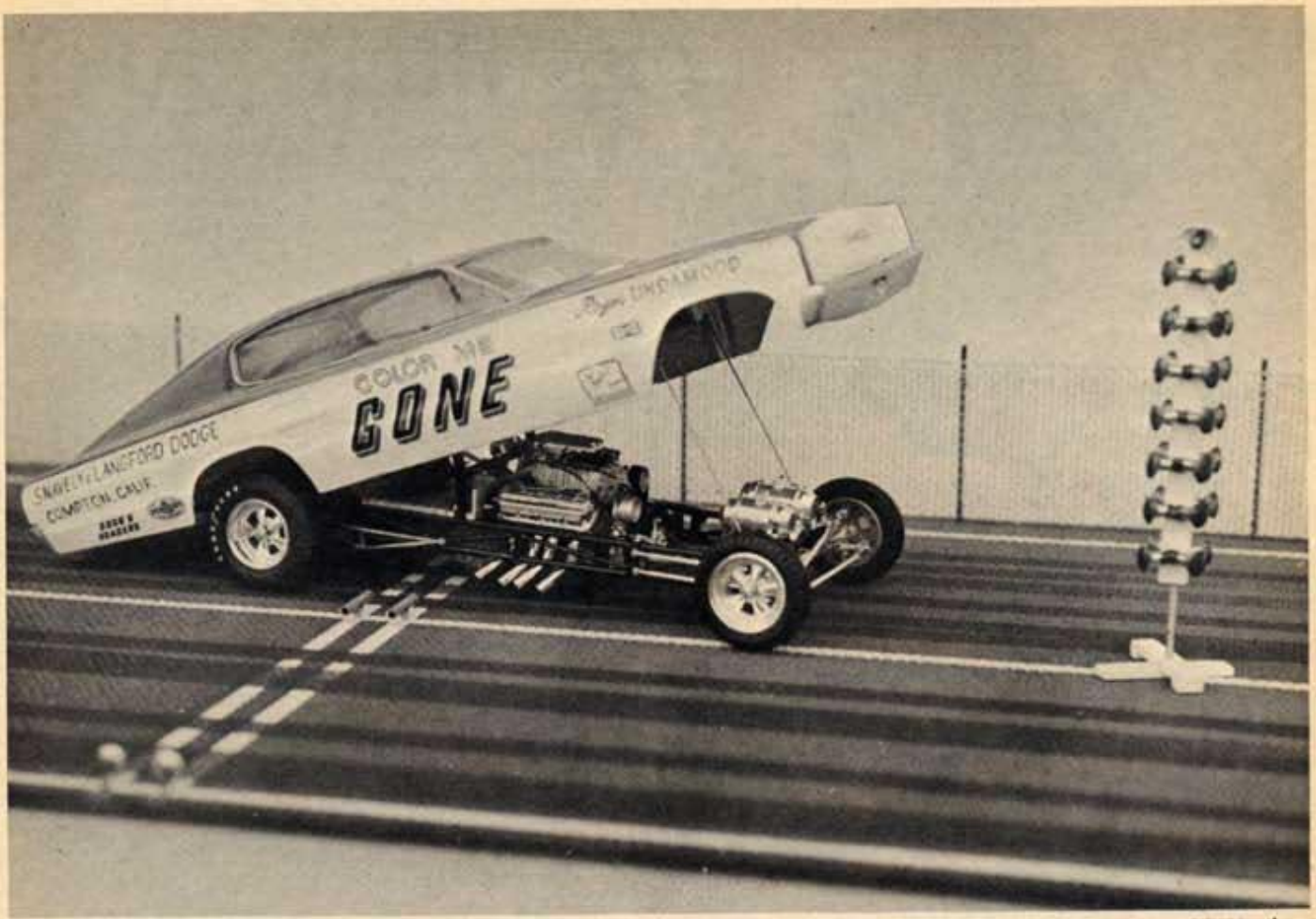


14) Roger installed a big GMC huffer on top of the 426 Hemi engine. Study the photo carefully before starting to wire the engine.



16) Roll cage is a cross between the kits long and short setup. The two top bars now measure ¾-inch in length. Diagonal bar, and bar behind seat is a piece of small parts runner.

18) Body has been mounted to chassis, and drag chutes from the AMT Piranha kit are glued to plate. Heavy thread is used to duplicate cables that attach chutes to frame. Wheely skids are strips of file cards with slices of small round plastic for wheels.

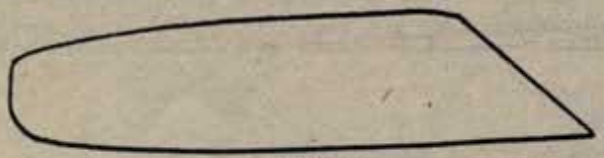


22) Small brace rods are made from fine gauge wire with a half piece of aluminum tubing glued to one end. This fits over top rail of chassis.

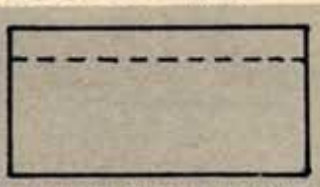
23) You can see just where decals and lettering are placed on the model. Large tank is for fuel; small one is water supply.

COLOR ME GONE INTERIOR PANELS

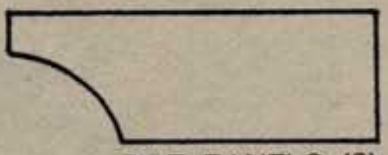
FOLD ON DOTTED LINES



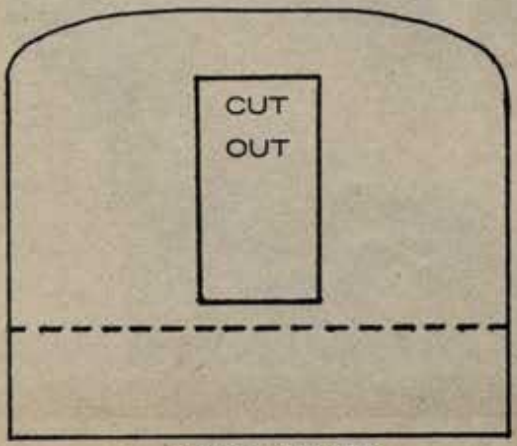
SIDE WINDOWS



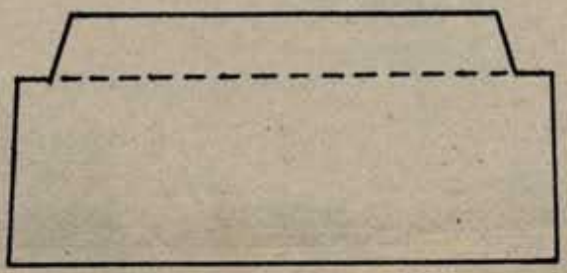
LOWER REAR PANEL



SIDE PANELS (2)



HOOD COVER



REAR INTERIOR PANEL

THE FINE ART

Another Easy How-To For The Paint Puddlers

Fogging is simply the process of applying one color over another, but not with the intention of entirely covering the first coat! Actually the idea is to try for a "two tone" paint job, but not one that features the two separate colors sharply divided by a clean, sharp line. One color should blend into the other.

Generally speaking, it's far better to fog a dark color over a light one, the result usually being far more satisfactory than if you did it the other way around.

Pick up your old trusty can of Testor's PLA spray enamel, (I'm using their 25-R, Surfite yellow) and put it in the warm water. Shake it once in a while to make sure all the paint gets warmed. When that is done (don't get the water too hot, bubbie, we don't want Surfite yellow all over your kitchen walls!) mist the first coat on, using the same technique you used to apply the primer, making sure you're about 15" or 20" from the model. Let this "tack coat" dry thoroughly and apply the second coat, a bit thicker this time, but not *too* thick. It should take about three coats to cover the primer nicely. No sanding is needed between coats here.

While you are applying the final coat of Surfite yellow, have a can of 17-R Tweedy Pie Purple warming in the old pot. The minute you finish laying on the final coat, and before it dries, pick up the Tweedy-Pie Purple and begin blasting! Rotate the car so you're pointing at the underside with the paint nozzle. All you want is just a mist of the purple to reach up and cling to the lower part of the doors, fenders, etc. By aiming at the bottom of the car enough overspray will hit the side of the car to give you just what you want. Candy colors are the toughest to work with for some reason. Solid colors and Metalflakes come out fine.

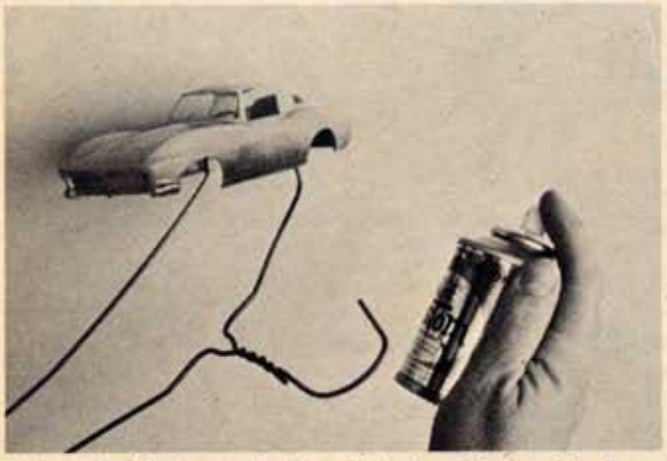
You can also fog the top of the car. Learn to use a paint mask, as shown in the photo. It gives you quite a bit of control over the spray from your paint can. Fog a fairly narrow band down the center of the hood, top and trunk.

That's really all there is to it. If you ever get a chance to try this with an airbrush, at least you'll know the basics of the game. Above all, experiment every time you get a chance. You can come up with some really fantastic patterns and color combinations. A coat of Chip Guard will protect your finished model from grubby little hands.

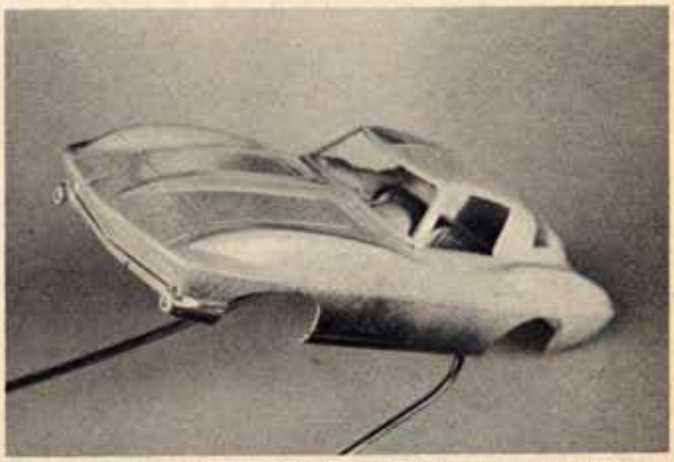
OF FOGGING

Use our old faithful coat hanger to hold the model. Spray on the primer, sanding with #600 wet or dry paper between coats.

After the final sanding of the primer, apply the Surfite yellow. Don't get closer than 12 inches.

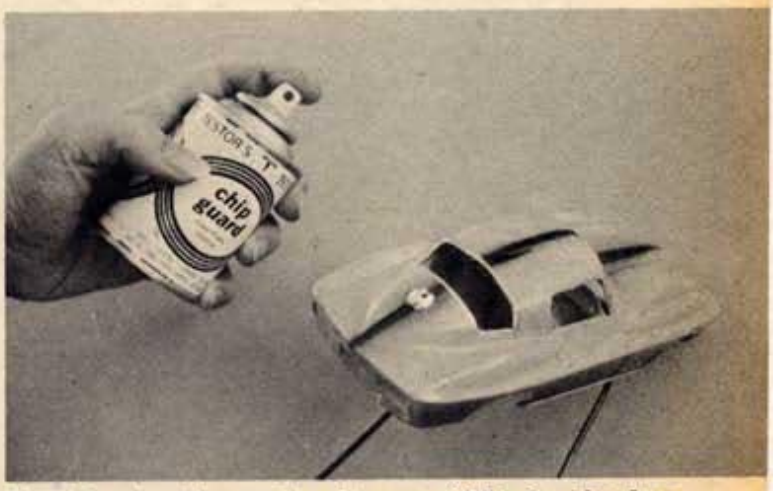


Before the final coat of yellow dries, fog the first bit of Tweedy Pie Purple on to the side, by aiming at the bottom of the car. Overspray will put it on the side.



There's the fog job along the bottom edge of the car. Looks neat, wot?

Use a piece of cardboard for a mask. Spray through this hole onto the roof, trunk, and hood below. Hold the cardboard close.



After the paint dries, apply a thin coat of Chip Guard to keep your model free from greasy fingerprints.

THE AMERICAN COLLECTOR

What makes a model car a "collector" piece

Literally, anyone who hoards model cars can be considered a collector and his cars as collectors cars. There must be some way of identifying the man who merely collects assembled models from the man who builds all of his models from kits.

Common usage has applied the term "collectors cars" to only the pre-assembled miniature automobiles such as the famous Matchbox or Corgi metal vehicles.

Originally, the collectors cars were only metal. Now, however, some very excellent plastic models and/or metal models with numerous plastic parts have been added to the ranks. Some of these newer plastic cars are not assembled, but kits. It becomes difficult, indeed, to pin down a precise definition of the term "collectors cars." Since the historical size limitation on collectors cars has been 1/43 scale or smaller, it seems best to "peg" any car that is in this size range as a "collectors car" regardless of its material, or whether or not it is assembled.

We intend to show you the latest cars that are readily available to readers living within the continental United States. Hard-to-find cars, or out-of-production cars, will *not* be discussed. True, the really avid collector thrives on trying to locate cars that the rest of us cannot find. The hobby has expanded to such an extent that there are over 20 different brands of these collectors cars now offered in the U.S.A.

We feel that we have a responsibility to our readers to show as many of the new offerings of these 20-odd firms as we can. There are several superb books describing the out-of-production car models and the models not imported into the U.S. In a future issue we'll review these for the collector who feels he must search out the rare beasts from the past and present history of collectors cars.

Briefly, the cars that will be included on these pages will range in size from about 1/60 scale (models like the Matchbox or Mini-Lindy Greyhound buses) to about 1/43 scale. Few of the current collectors cars are all metal. Most include plastic interiors and details even when a die cast metal body is used. Naturally these pre-assembled metal cars will appear on these pages; but so will the all-plastic models as well as any plastic or metal kits that fall within our selected size range. You, as an individual collector, may want to collect only one brand, one scale, one make of full-size car in miniature, or a hodge-podge of whatever car merely appeals to you.

Most popular sizes are 1/43 scale like the white Carrera by Mercury or Corgi's Lancia Fulvia, and 1/60 like the Mini-Lindy Carrera (a plastic kit) or the Penny brand Alfa Romeo Giulia SS. The smaller cars usually only sell for 39¢ to 89¢, while the larger scale models range from $2 to $8 for a complex vintage or antique car.

Renwall offers an extensive line of 1/48 scale kits for less than a dollar. Latest series packs two kits to a box and includes the cars shown: Corvair, Riviera, Mustang, '37 Cord, '35 Auburn, '32 Chevy, '48 Continental, '23 Chevy, '02 Ford, '30 Bentley, '33 Bugatti, and '14 Chevy.

Aurora's new Cigarbox series of collectors cars is about 1/80 scale. Most are their HO slot racers with plastic chassis.

Penny brand Alfa Romeo Canguro is about 1/60 scale, includes opening doors and hood for only 89¢. Metal body, pre-assembled.

Dinky 1/43 scale Ford GT MkII is also metal, will sell for about $2.00.

Corgi's Toyota 2000 roadster is model of rare car used in James Bond films. About 1/43 scale, in die-cast metal.

Corgi's new Lincoln Continental Limousine is example of largest model we consider as a "collectors car." Approximately 1/43 scale, the car is almost 6" long. $4.00.

One of the better and most popular cars ever is Matchbox's metal Ferrari Lusso Berlinetta at 55¢. About 1/55 scale.

Matchbox "Models of Yesteryear" are about 1/43 scale, sell for $1.25 to $1.50, and are primarily metal. Four newest are the 1913 Cadillac, 1912 Rolls Royce, 1912 Simplex, and 1909 Thomas Flyabout.

Mebetoy/AHM line includes some rare and wonderful cars in 1/43 scale die-cast metal. This is their Lamborghini Miura, $4.00.

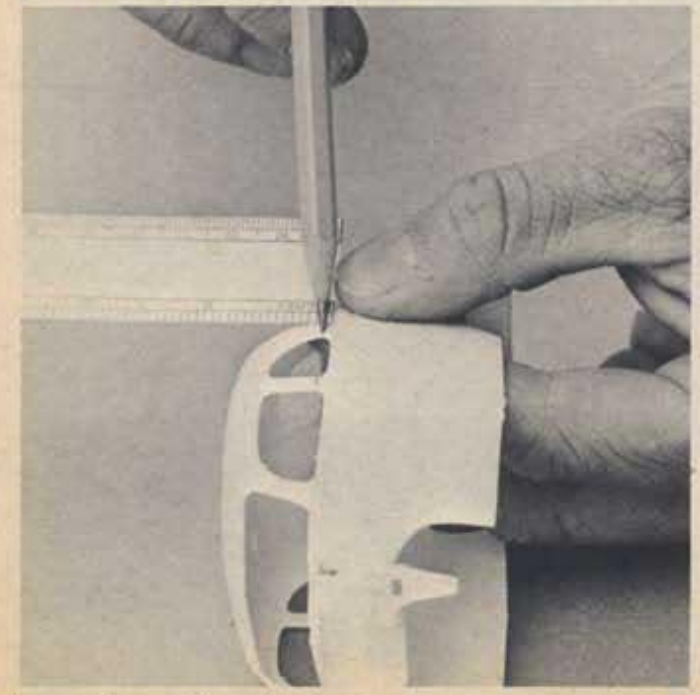
Mebetoy/AHM Chaparral 2F includes engine detail and movable wing.

SPECIAL CUSTOMIZING SECTION

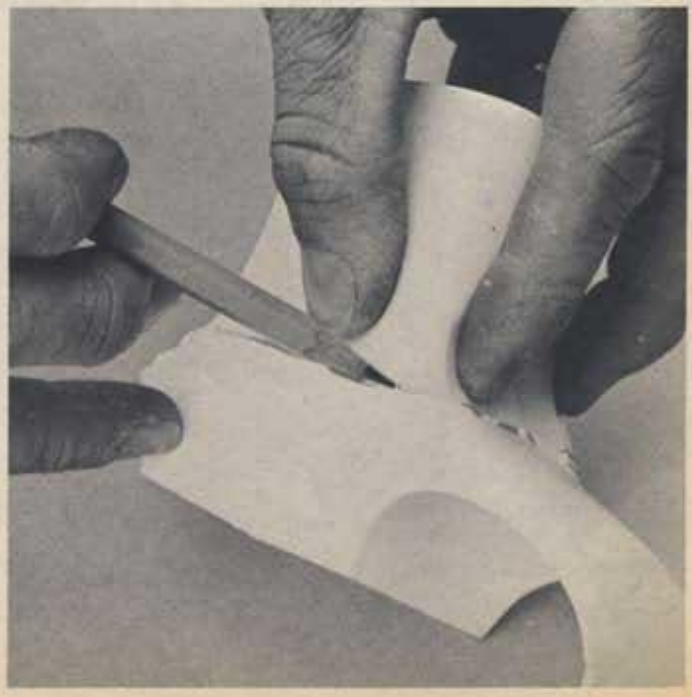
Here's the straight scoop on choppin', sectionin', and bobbin' — by Don (The Modeler) Emmons

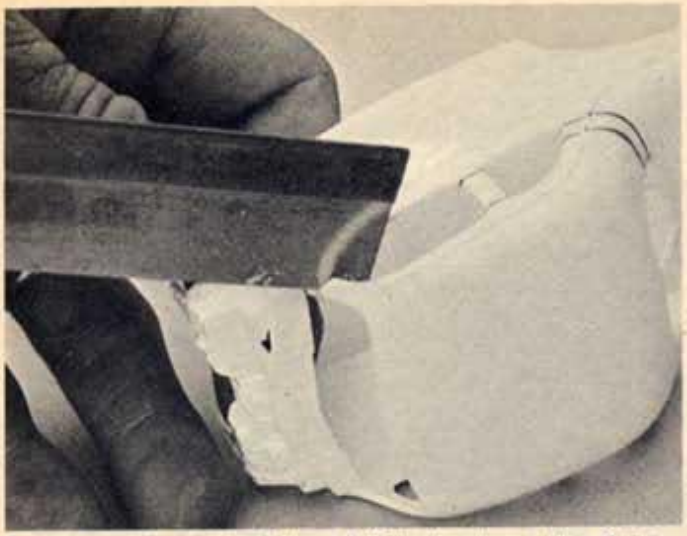
HOW TO CHOP A TOP

Measure 1/16-inch up from the window edge and mark the body with a sharp pencil. Place the guide marks around the body.

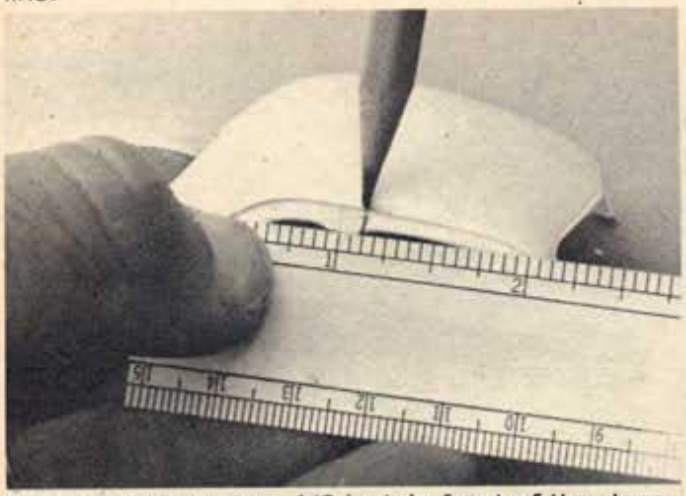


Use a file card as a straight edge, bend it around the lower part of the body, and draw a line between the marks.



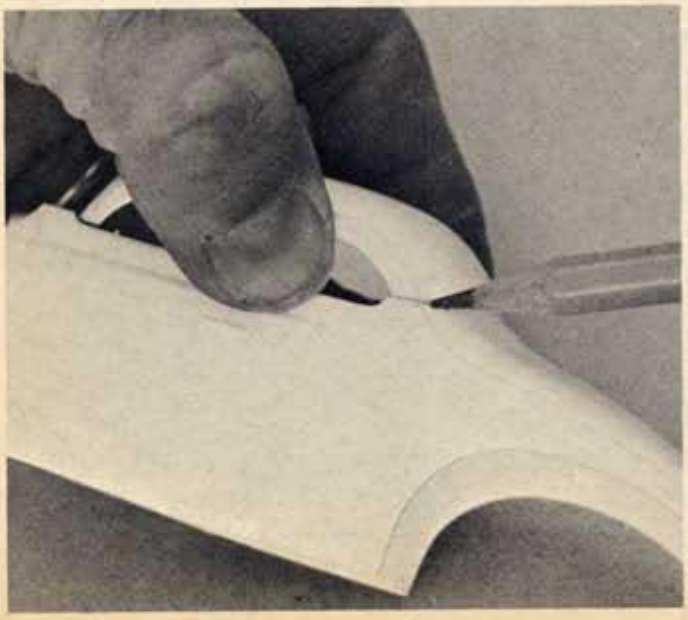


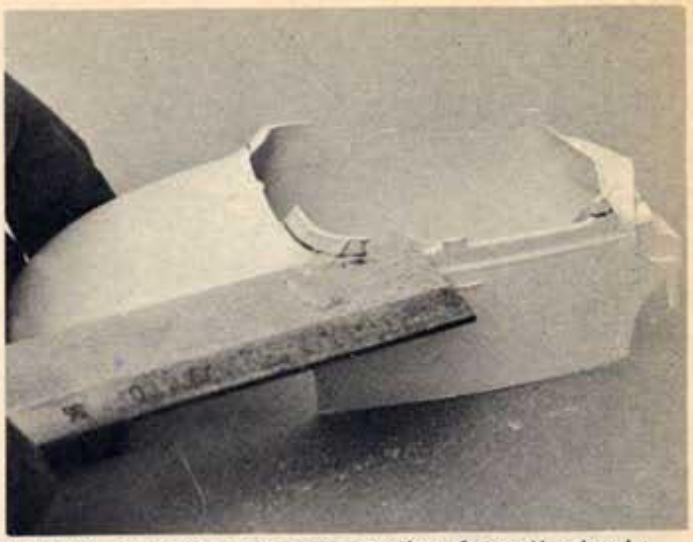
Draw another set of lines 1/8-inch above the first. Remove this amount from the top. Cut on the upper line first, with the exception of the center door post which should be cut off at the lower line.



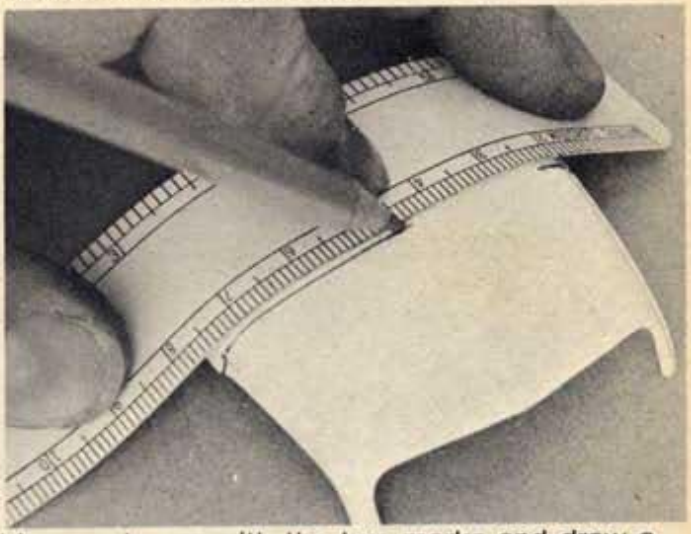
Place a mark on top, 1/8-inch in front of the door line. Repeat on the opposite side. Work carefully on these steps, or the top will require a lot of putty to fill the gaps.

Hold the top to the body and check the fit of the sectioned area. Make sure the molding lines match up properly.



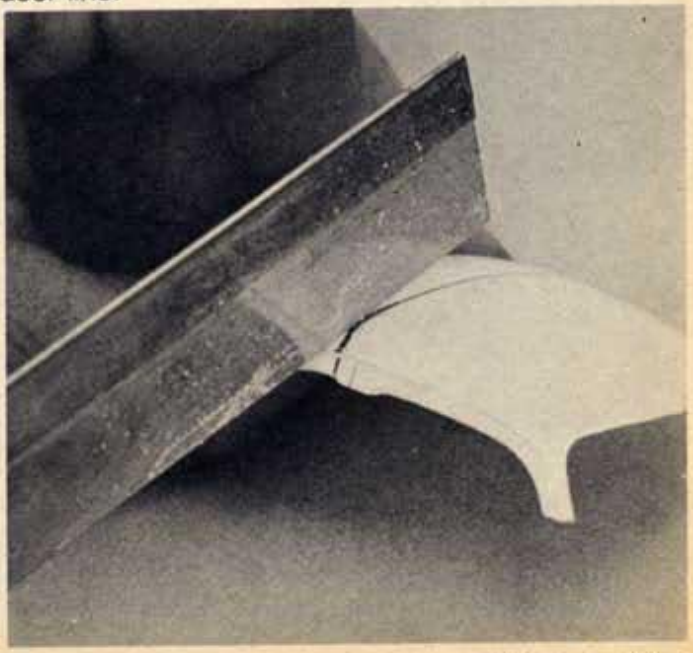


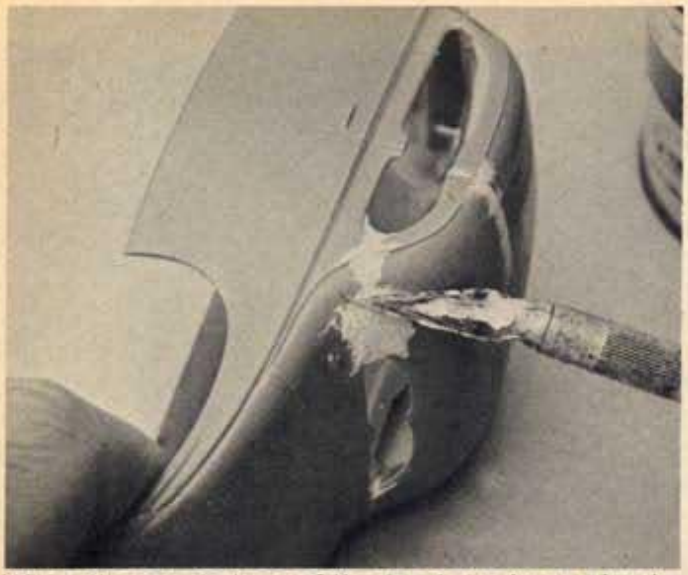
Now remove the 1/8-inch section from the body. Be sure to keep the two sawed edges parallel so the top will match up later.



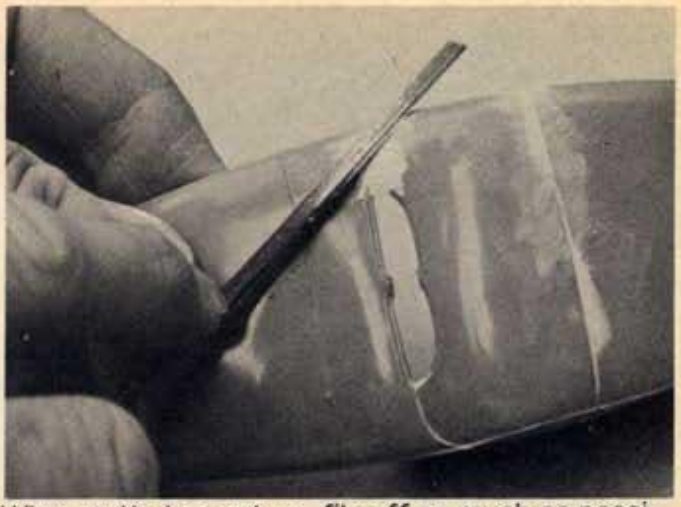
Line a ruler up with the two marks and draw a line across the top.

To simplify this custom job, cut the top off a second body, just like the first one. Duplicate steps #5 and #6, but measure 1/16-inch behind the door line.





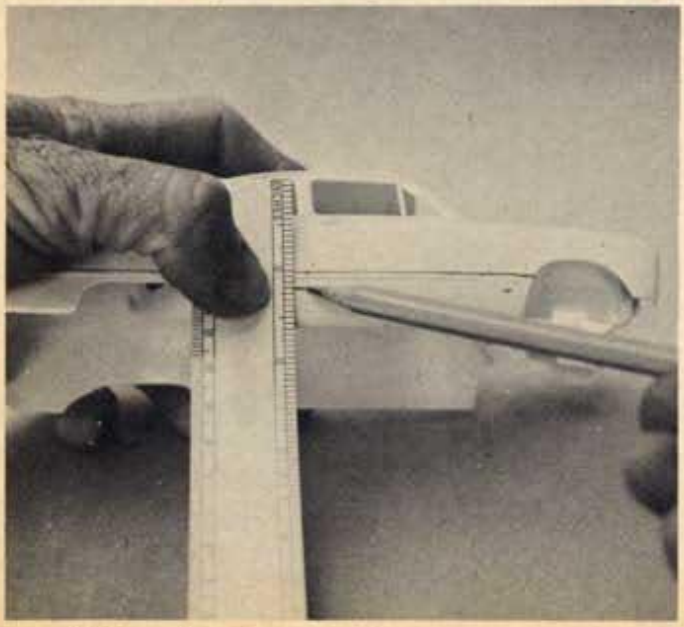
When the two halves of the top have been glued to the body, apply putty to all joints. Do not use too much putty.



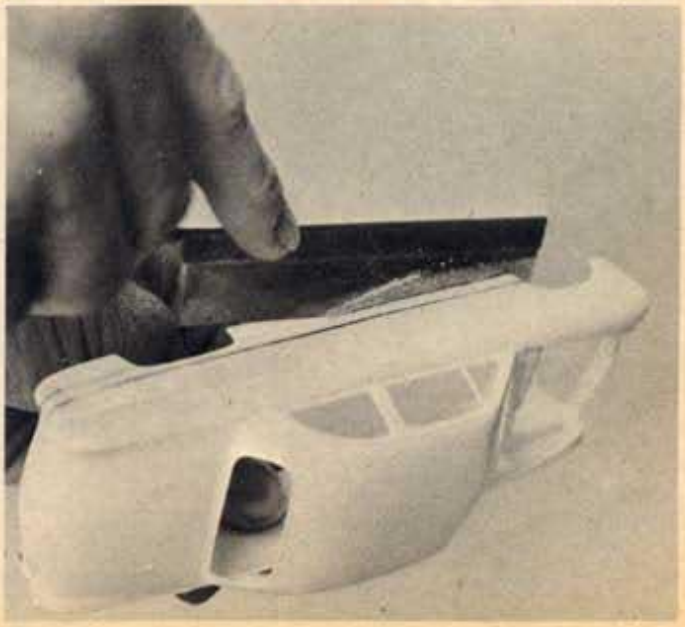
When putty has set up, file off as much as possible to leave only that which fills any cracks or holes.
You must be very careful when filing down puttied areas to make sure the drip molding is retained. You want the top to look uncut.

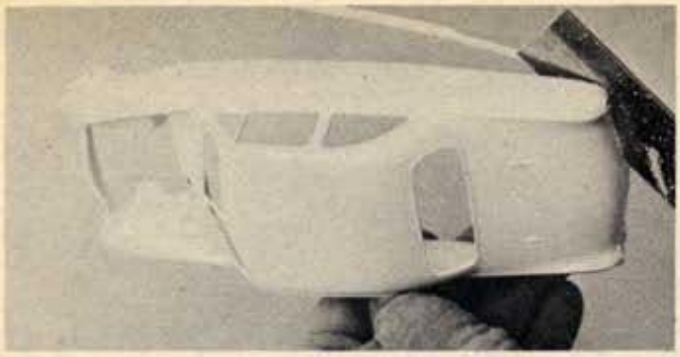
HOW TO SECTION ('49 Ford)

Measure down 3/16-inch from the line that was first drawn along the top edge of the chrome strip.

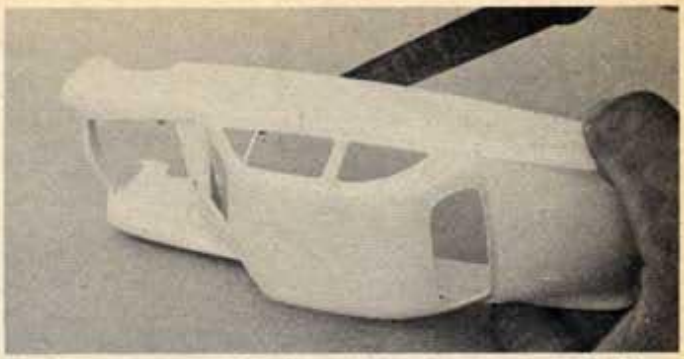


Get a firm grip on the body and cut off the lower portion with a razor saw. Be exact; cut straight.



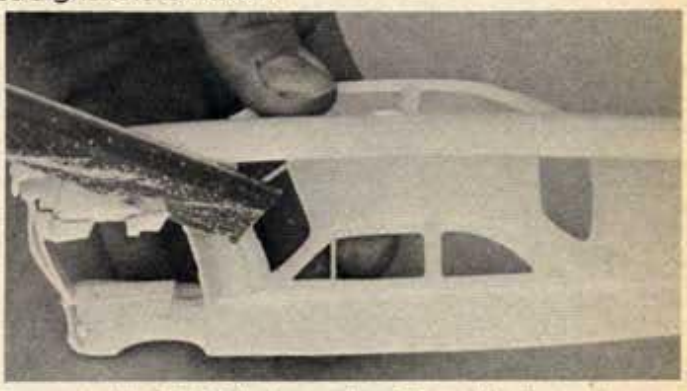


Starting at the front well, cut the 3/16-inch section away. Sawing too fast tends to melt the plastic.

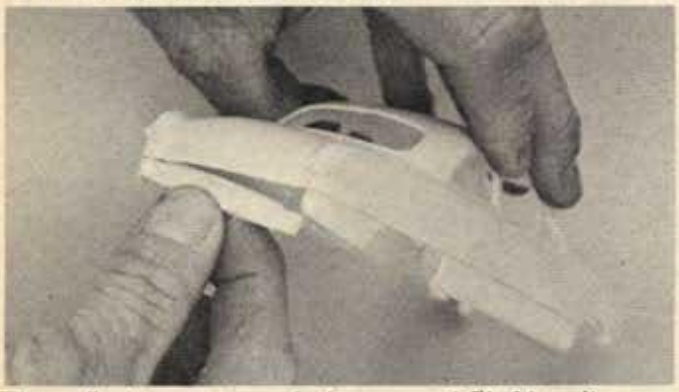


File all edges to make sure they are perfectly straight and smooth.

Check the fit of the lower piece. If the fit is good, very little putty will be needed.



Remove the 3/16-inch section from the inner fender well. Smooth the edges with a file.

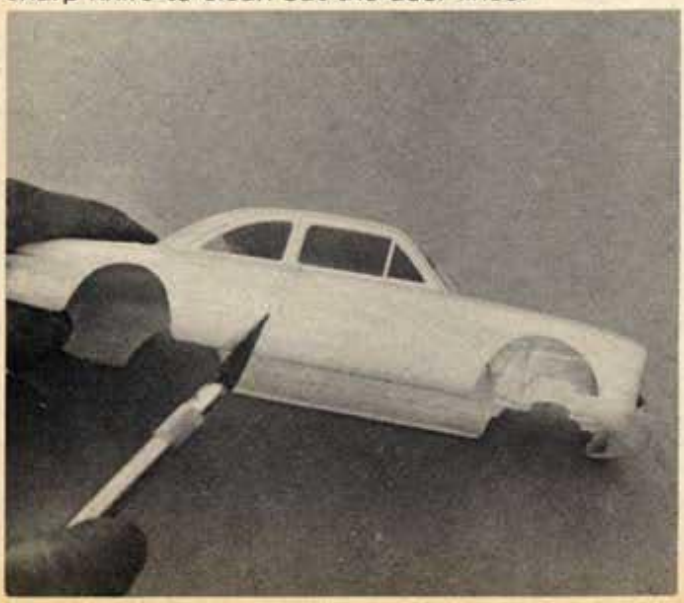


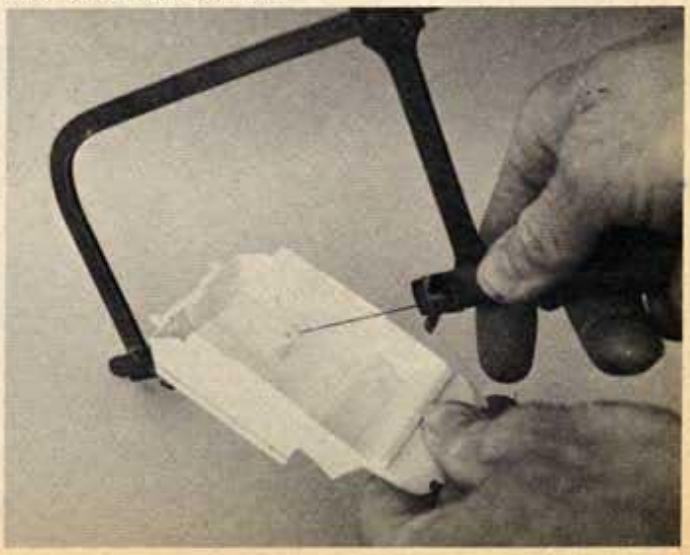
The rolled pan seems to be a good fit. Now it can be glued into place.

When puttying and sanding are finished, use a sharp knife to clean out the door lines.

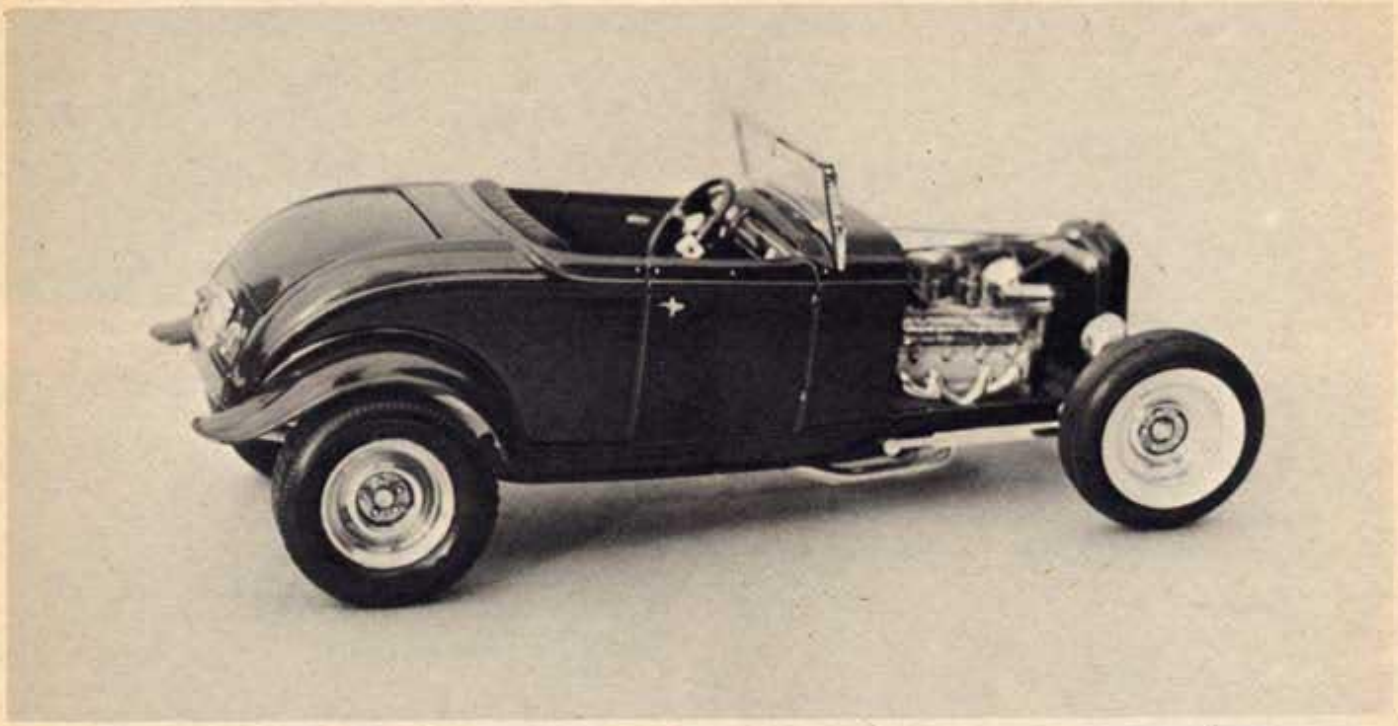
Apply putty where it is needed. Allow it to dry completely, then sand with #320 paper.

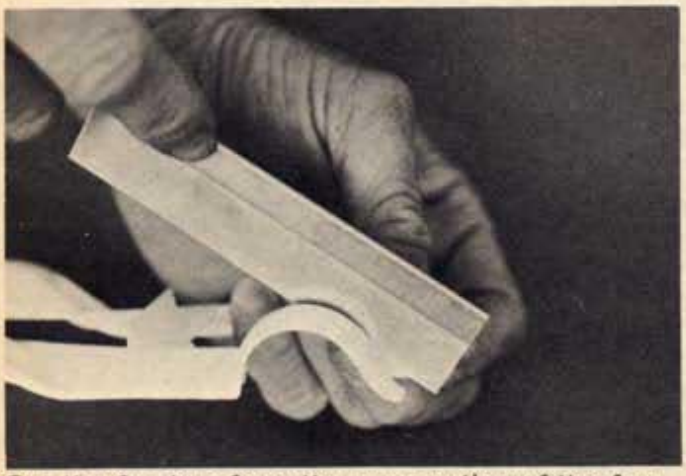
Measure off a 3/16-inch section from the bottom of the interior unit. Use a razor saw to cut the floor away, then section the interior. Glue the floor back to interior.





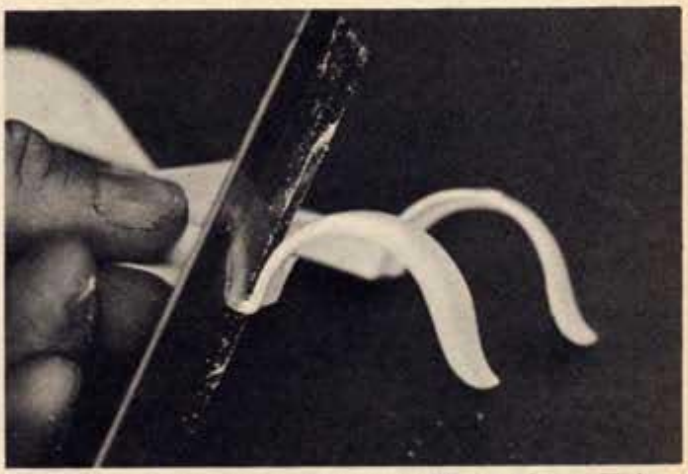
"BOBBED" REAR FENDERS





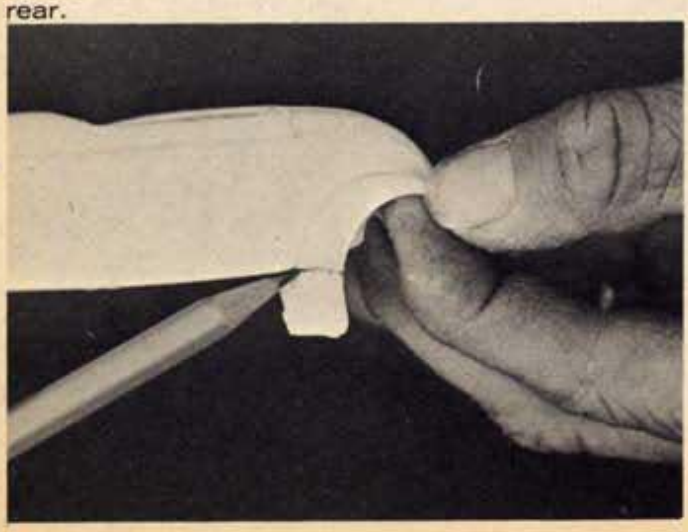
Cut the fenders from the rear portion of the fender unit. Do not cut away any of the fender portion.

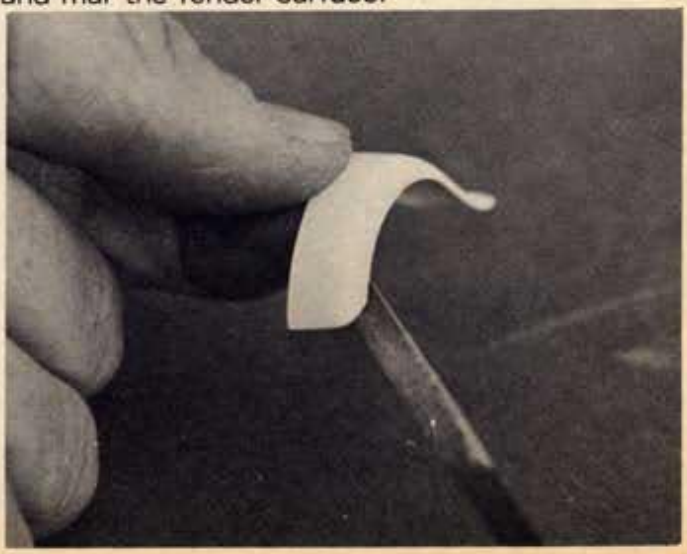
Hold the fender to the body and mark the front portion to be cut away. Check the finished photos to see how much the fender should extend at the rear.

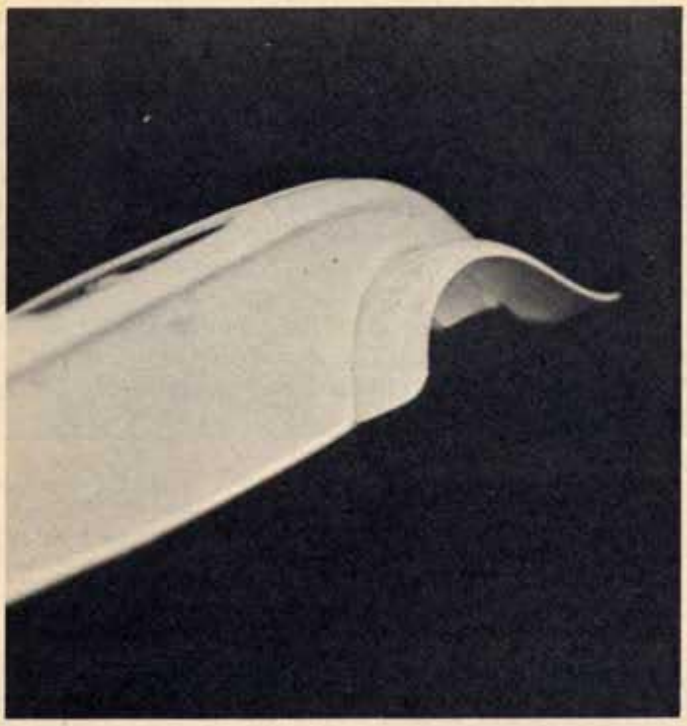


Saw across the running board of both sides. This frees the rear fenders.

File the front sawed edge and round off the outside corner. Work carefully or the file might slip and mar the fender surface.







Glue the finished fenders to the body, lining up the front portion even with the lower edge of the body.

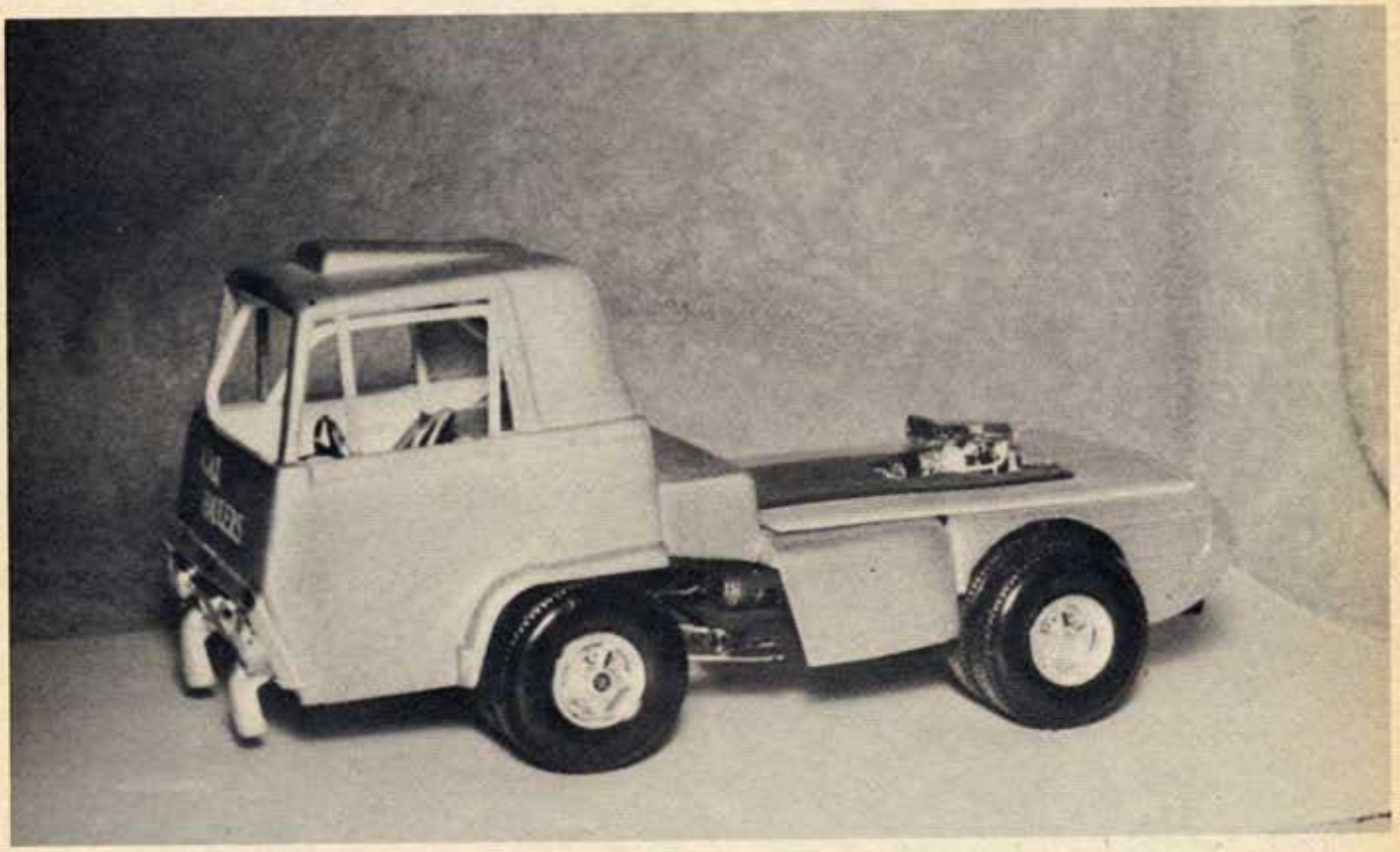
Our highboy roadster is running rear fenders only. The bobbed fenders make a neat looking model, and this procedure is easy, even for the beginner.

MODEL OF THE MONTH

HOW TO ENTER OUR CONTEST

You can enter **any kind of a model** you like (train, plane, boat, car, etc.) so let your imagination run wild! Just send one or two sharp black and white (no color please, we can't use it) photographs of the model, and a brief description of what you have done to it. Remember, other readers are interested in what you have done to your model, so be specific when mentioning the parts that you used. Send to: Editor, MCS, 171 Barrington Place, West Los Angeles, California 90049. Sorry, we can't return photos.

The winner of the $25 Savings Bond this month is Bruce Ballard, 2160 24th St., Marion, Iowa 52302. Bruce's '41 Willys now sports a fully wired 427 Chrysler, set back in the chassis ½ inch. The key came from a Revell '51 Ford Anglia. The battery is in the trunk, and the cables run under the frame to the engine compartment. The mags are from the Willys kit. The front end was cut out to cool that big mill. A flat black interior sets off the dark green exterior nicely. Good job Bruce. You'll be getting your Savings Bond in the mail soon.



David Hammett, of Fairfield, Pa. scratched up this gorgeous (and very unusual) machine from a Deora rear body and deck, glued and molded to AMT's Worldwide Van Lines truck! The deck was cut to fit the rear engine. Taillights are from the scrap box, and the front bumper was painted flat aluminum to look like fiberglass. The Van Lines truck supplied the axles and wheels. Two gas tanks and the seats are from the Wynn's Jammer. Both engines are fully wired. The black corduroy interior is a reworked Deora unit. The rollbar cage is from Monogram's Hurst Hairy Olds, and the gear shift hand made. The color is metalflake lemon lime, and the car is titled "Little Atom." Exquisite, Dave.

Our April winner, John Brandimarte, of Paoli, Pa. nearly pulled it off again this month! John's very sharp "Rawhide" AMT '67 Mustang Funny Car sports a Revell Mooneyes dragster frame, lengthened ¾" and widened ½". New cross members were added, made from plastic sticks that came from a game called "Pix" that can be purchased in any five and dime store for 29¢. The front axle comes from AMT's Double Dragster kit. John made the steering linkage, tie rods and radius rods from K&S 1/32" wire. The rear axle was cut from the stock frame. The engine is a 427 Ford by Aurora, with a Revell 427 Ford blower. Exhaust pipes are from the Revell engine kit. Engine detail includes ignition wires, plugs, fuel lines, cables, and throttle linkage. Rear slicks are made by gluing two AMT slicks together, wrapping them with black plastic tape and then gluing white sidewalls on, painted flat black and scraped to let the lettering show up. Rear wheels are American Racing Mags by Revell. The body is almost stock except for the molded on roof scoop. Rear wheel openings had to be enlarged to clear the slicks. The stock grille was replaced with flat black wire screen. The body was painted AMT Metalflake Root Beer. Lettering is press-on letters from Auto World. The rear caster wheels are from the casket that comes in the JoHan Cadillac Hearse. Splendid, John. Keep them coming!

This car was built as a team by Terry Eckensviller and Darryll Holland, of Waterloo, Ontario, Canada. It's powered by a Chrysler Hemi, fully wired. The scratch chassis rests under a two-toned Fairlane body covered with four coats of ruby red and gloss white paint. The chute and pressure tank are wired too, and the interior fully detailed. Rear tire "bite" comes from the use of "J" car tires. Clean, fellas.

Angelo D'Ambrosio made this great car from the MPC GTO kit, and the "Mr. Unswitchable" Funny Car. A front airfoil was added and the car painted Ruby Red Metalflake, with blue decals. Front suspension is from the GTO, and rear suspension from a '41 Willys on the Mr. Unswitchable frame.

The wheely bars are ingenious. They're made from HO tires and rear suspension arms. The fully blown and wired 427 Ford engine has been painted gold, to contrast with the black frame of the car. The rollbar is scratch built. The entire car took three weeks to build. Neat craftsmanship, Angelo.

Adding a speaker to Monogram's Garbage Truck

By Dennis Doty

WIRING THE "GARBAGE TRUCK" FOR SOUND

Monogram has done it again. They started with the Uncertain "T," and then brought out the Boot Hill Express, followed by the Beer Wagon, the Red Baron, and now, the Garbage Truck. Each one of them has been just a little bit wilder than the one that preceded it.

Of course, the Garbage Truck is a *clean* custom, converted into a stage for that great group, the MGG's (pronounced MG's, like the car, for the Monogram Good Guys).

Seeing this is a mod hauler, we should wire it for sound! It really isn't hard to do, and all you need is a tape recorder and a small speaker. I purchased one locally for only 90¢ and it is 1½" in diameter. A larger speaker, up to 2" could be used. An even larger one could be used if the speaker was set on an angle in the box. If a local electronic supply firm doesn't carry that small a speaker, one can be ordered from Lafayette Radio Electronics Corp., 111 Jericho Turnpike, Syossey, L.I., N.Y. 11791. A free catalog can be ordered from Dept. TB-8, P.O. Box 10. A 1½" speaker stock #99-6036, 10 ohms is 99¢, page 259, catalog 608.

After much experimenting with different objects over the speaker, I found that a simple match box over the speaker increased the sound at least two fold.

When installing the speaker, switch the wires around several times to see if you get better sound reproduction with them a certain way.

No matter what colors you use for the mod group's costumes and guitar, start by painting all the flesh color first. I think stock flesh paint is too light, so use several drops of brown to make it slightly darker. I also used all gloss colors for the clothes, as there is more variety. To remove the shine, spray on several coats of Testor's Dullcoat. The guitars were painted after the Dullcoat was applied. Don't forget the guitar straps.

Before you begin painting the surfboards, make a pattern as described in the caption. Transfer the pattern of the side pieces to masking tape, cut it out, and install it on the board. The center color can now be painted. Allow at least three days between painting.

To paint the depressions between the front grille flat black, use the thinned paint method; paint the consistency of water. Excess paint may need to be scraped off the grille pattern. Be careful not to scrape off the chrome. Amber color can be made by mixing Testor's yellow and orange together with a small drop of red.

The phone jack and the recorder extension hang down too far for the truck to set level, and require the Garbage Truck to be mounted on a display stand. It can be made as simple or elaborate as you wish; however, I kept mine simple and left the

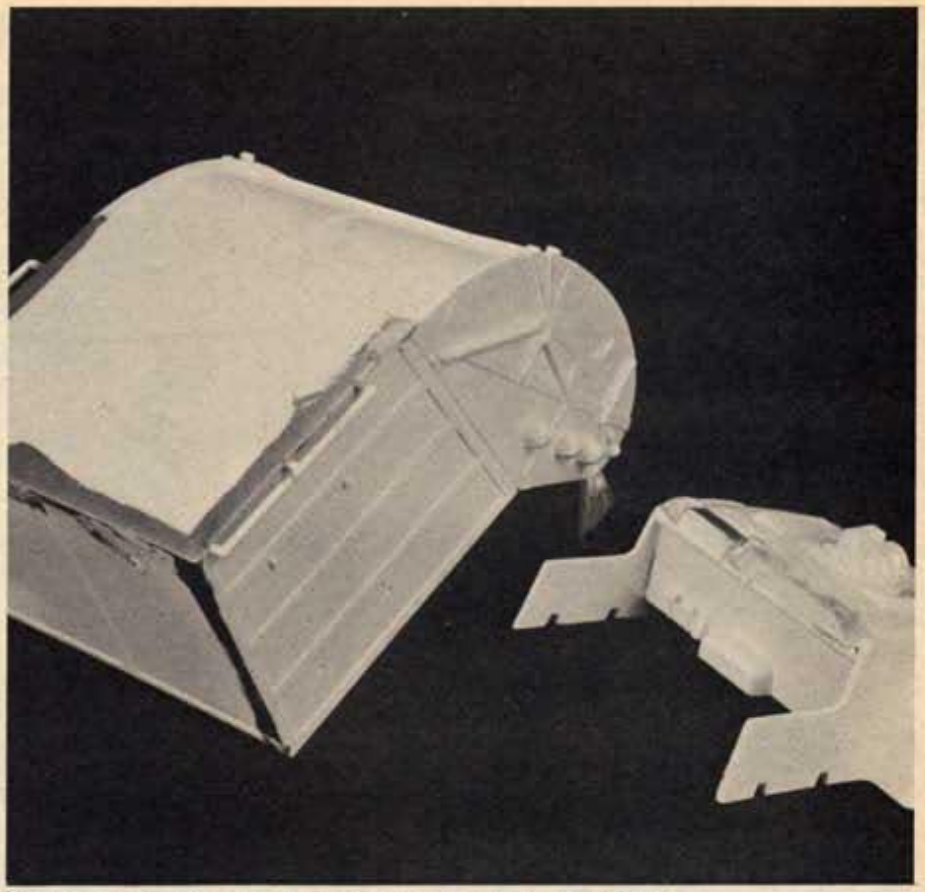
model removable instead of permanently attaching it to the base.

Cigar boxes, available from tobacco and drug stores make an excellent base when covered with contact paper. Any small box will work. You might want a display base that will completely enclose the recorder. Imagination can run wild here.

The psychedelic decals supplied with the kit are really boss. Even the large door decal goes on very easily considering its size. To make the decals easier to work, apply a little Solvaset according to the instructions on the bottle. This is available at most hobby shops.

Chrome sheet is used for the mirrors on the truck. If you can't get it locally, a 4" by 11" sheet is available for 35¢ (40¢ in gold) from Orange Blossom Hobbies, Inc., 1975 N.W. 36th Street, Miami, Florida 33142. You should have several sheets on hand at all times.

So if wild kits are your bag, hustle out of your pad and plunk down your two single hunks of U.S. bucks at your nearest hobby counter and drag the Monogram Garbage Truck home. I know it will bend your psychedelic mind.



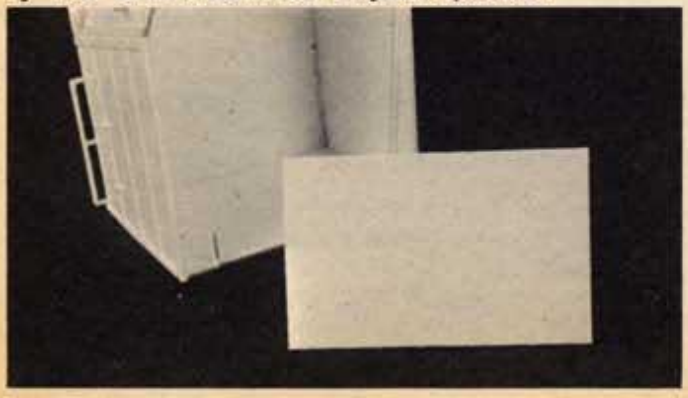
Start by gluing the firewall to the cab, and the garbage container together. Putty all seams.

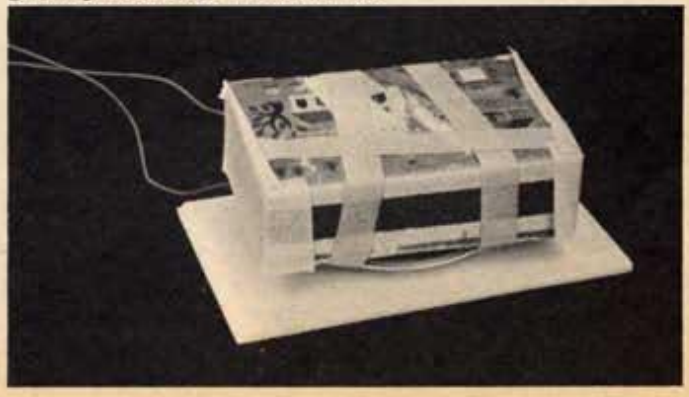
Any small speaker that will fit in the truck will work. Buy a phone jack that will fit your tape recorder.

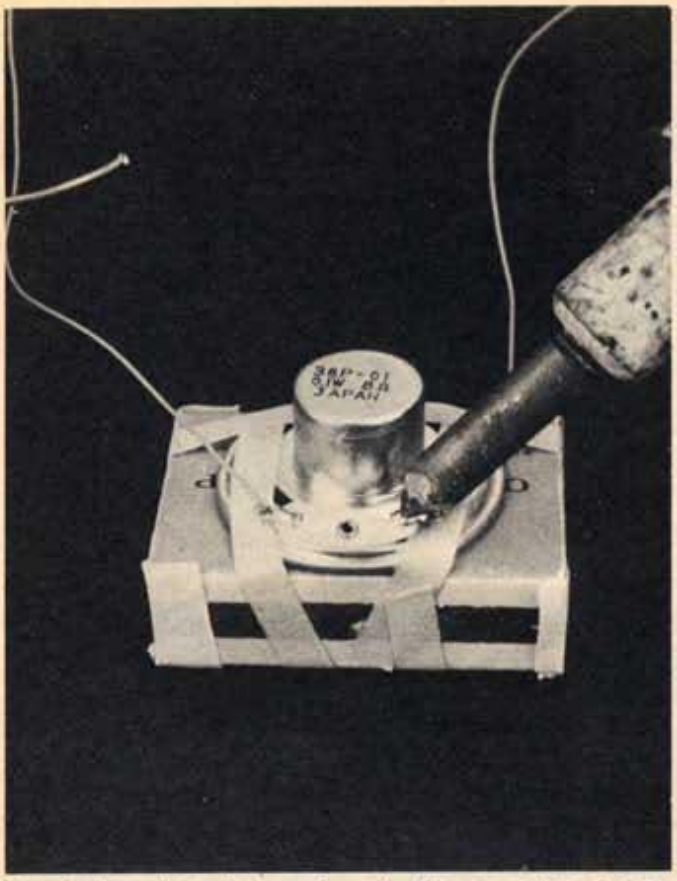
Cut a piece of .040" thick plastic sheet 2-11/16" by 1½" or the diameter of your speaker.

Use a divider set at the radius of the cylinder on the back of the speaker. Keep twisting the divider until you make a hole through the plastic.

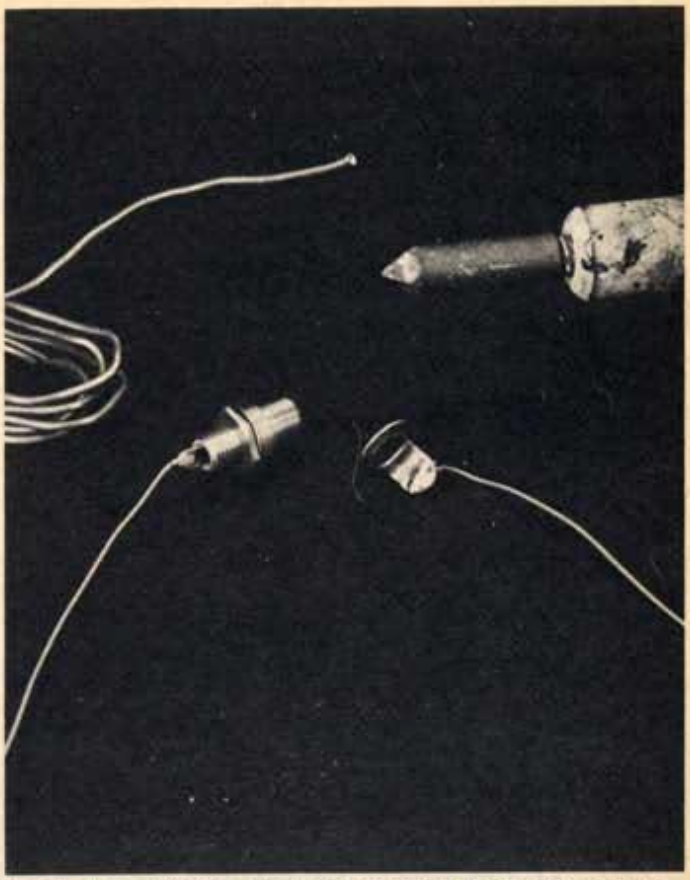
Taping a small match box to the speaker will greatly increase the volume.





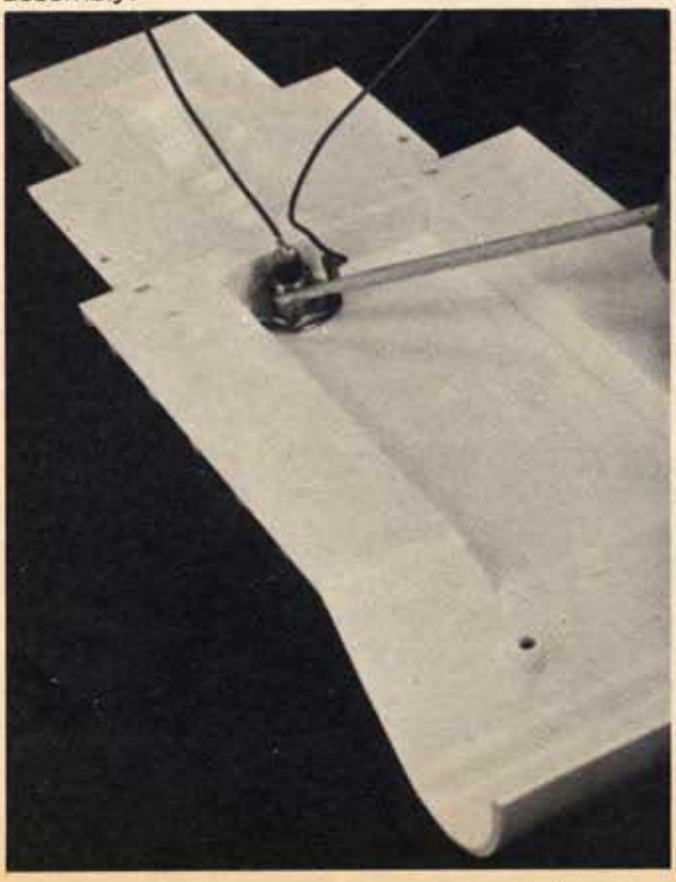


Carefully solder two wires to the speaker. Too much heat might damage the speaker.

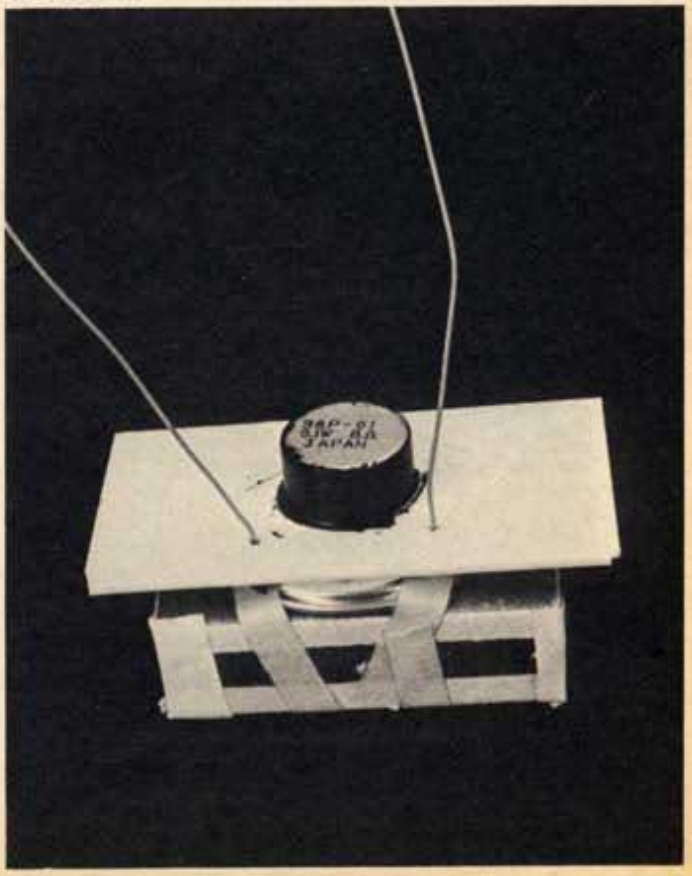


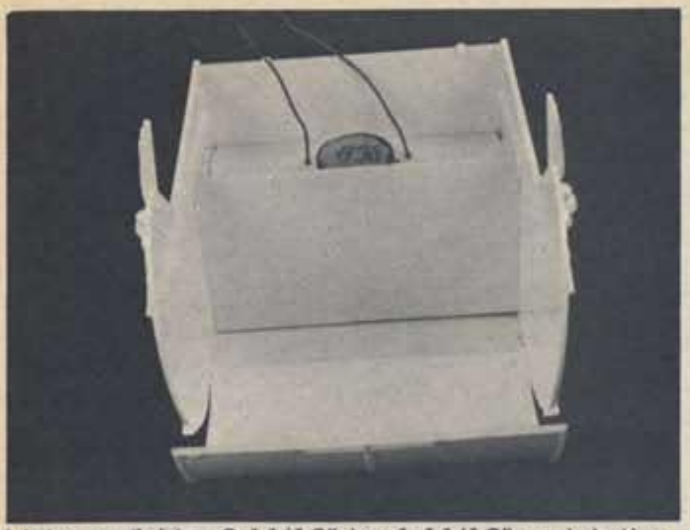
Bend the outside ring of the jack to a 90° angle and solder a wire to it and the center terminal of the jack.

Drill a hole near the front of the box for the phone jack.
Attach the jack to the frame assembly and epoxy it in place to make sure it doesn't loosen after assembly.

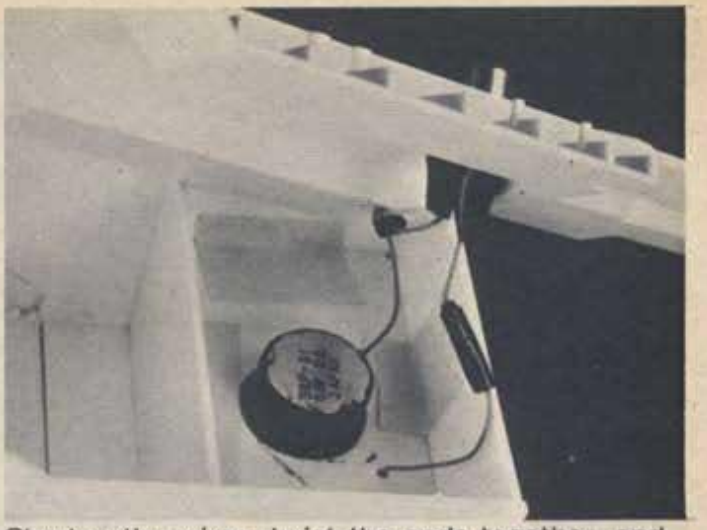


Drill two holes in the speaker mount for the wires. Mount the speaker to the plastic with black tape as shown.

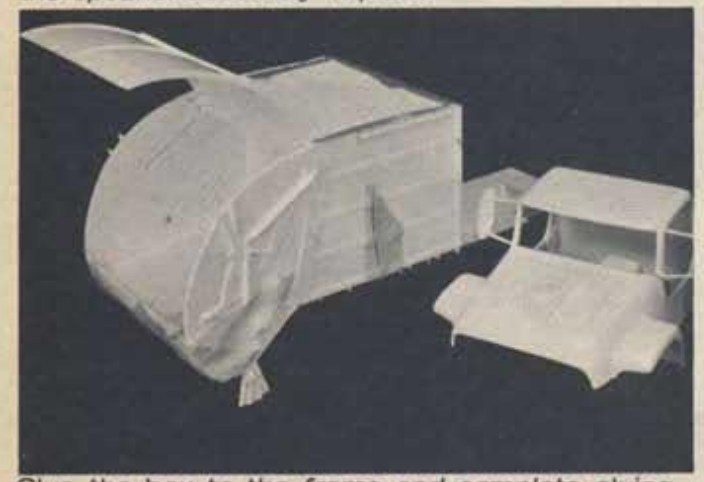




Make a divider 2-11/16" by 1-11/16"; notch the bottom to fit over the floor track. Glue this and the speaker assembly in place.

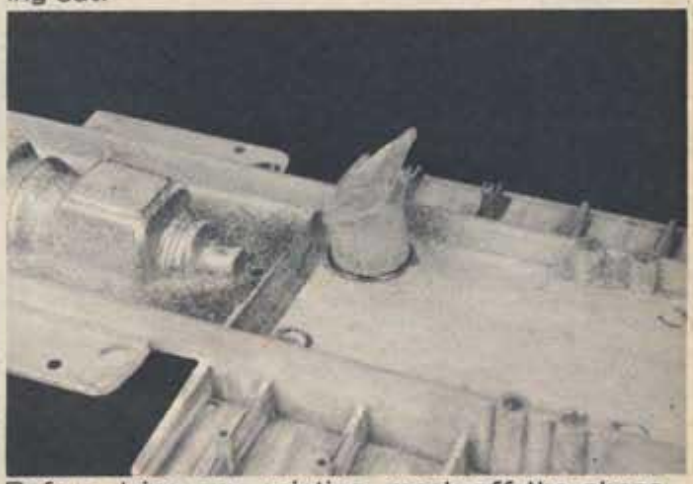


Shorten the wires, twist the ends together, and tape the exposed ends to keep them from shorting out.



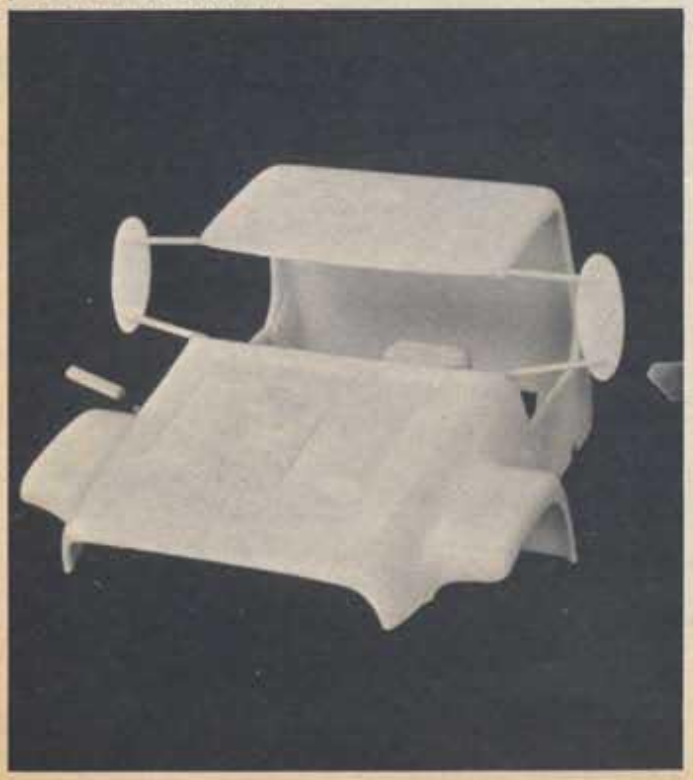
Glue the box to the frame and complete gluing the cab together.

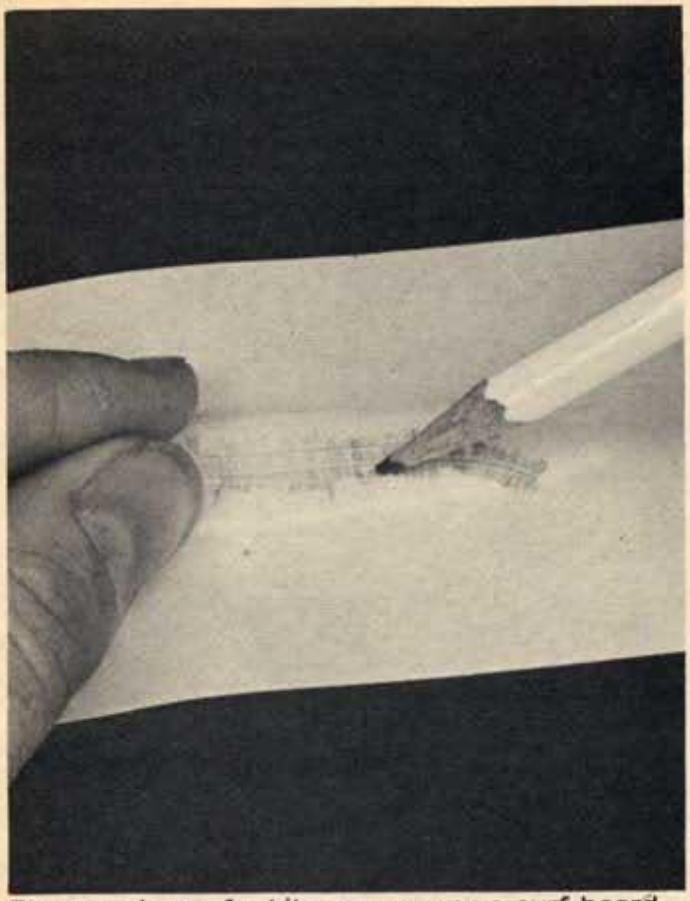
To make a full cantilever top, cut the windshield posts off as shown.



Before doing any painting, mask off the phone jack. Don't get paint inside it!

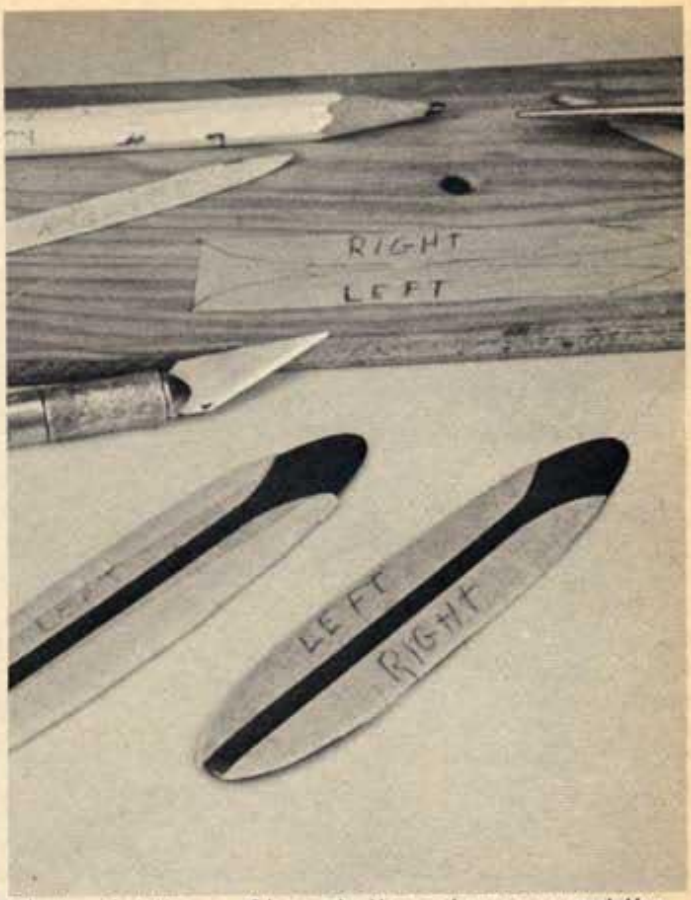
Paint the mod trio just as wild as you know how. See text for hints.





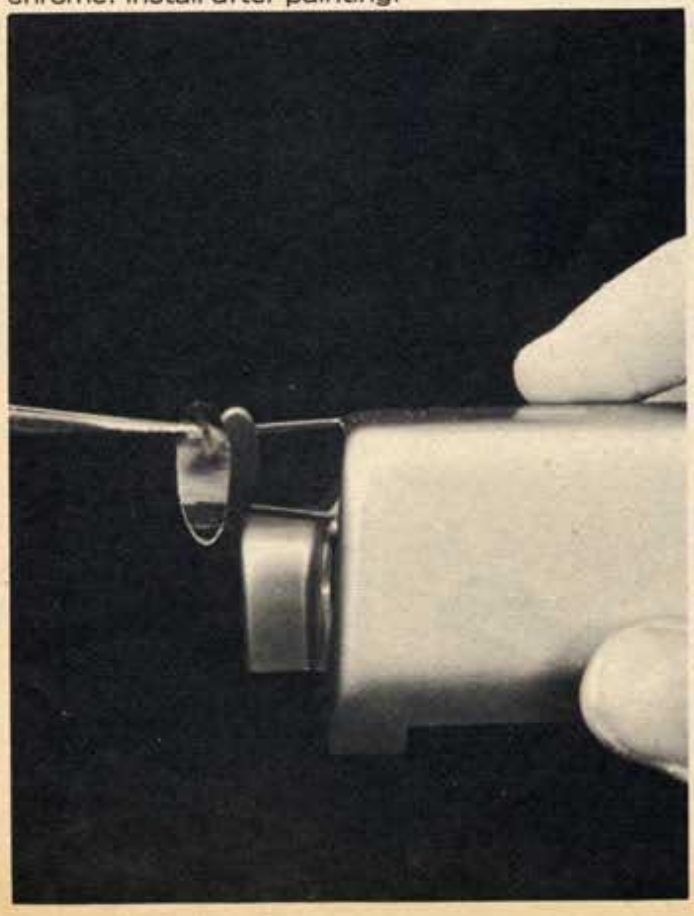
Place a piece of white paper over a surf board. Scribble over the board to transfer the molded-in pattern to the paper.

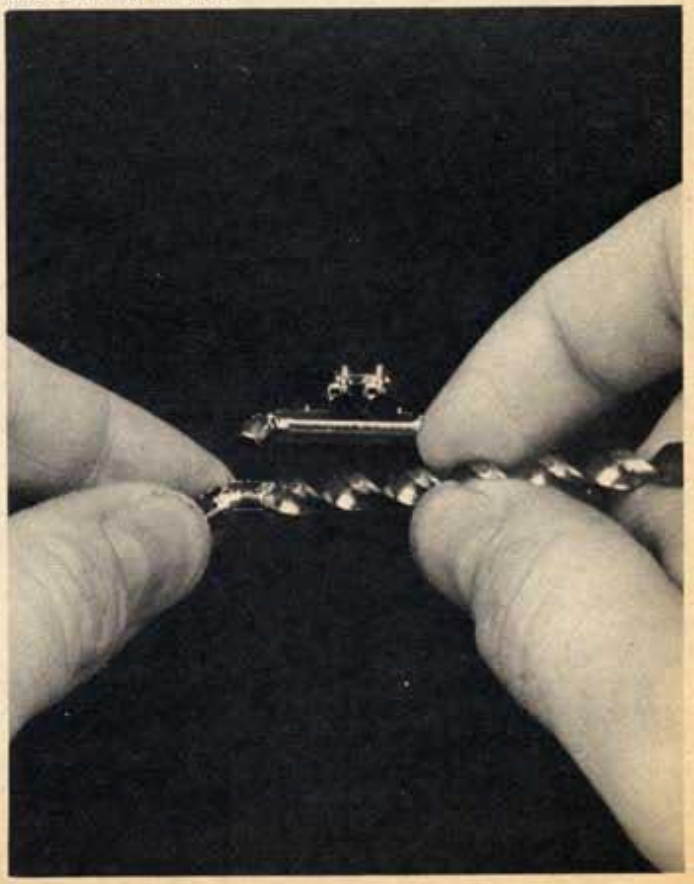
Make a mirror template from the mirror piece. Use the pattern to cut two "mirrors" from sheet chrome. Install after painting.



First paint the surf boards the color you want the side pieces, let the paint dry, mask off the side pieces, and finish painting the center piece. See text.

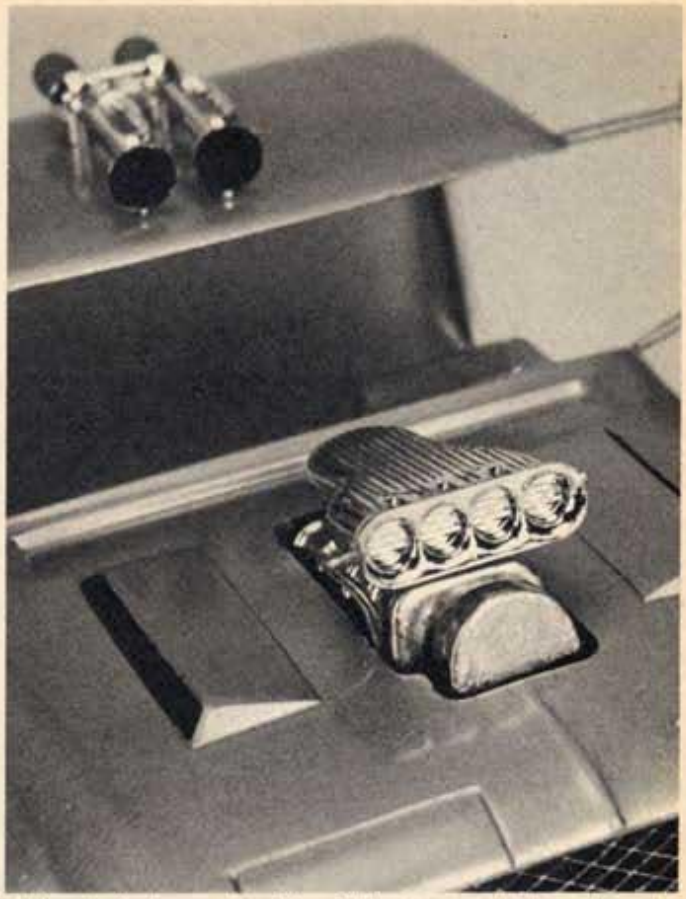
Drill a depression in the exhaust pipe and air horns. Make sure the drill is centered, and twist the drill by hand.





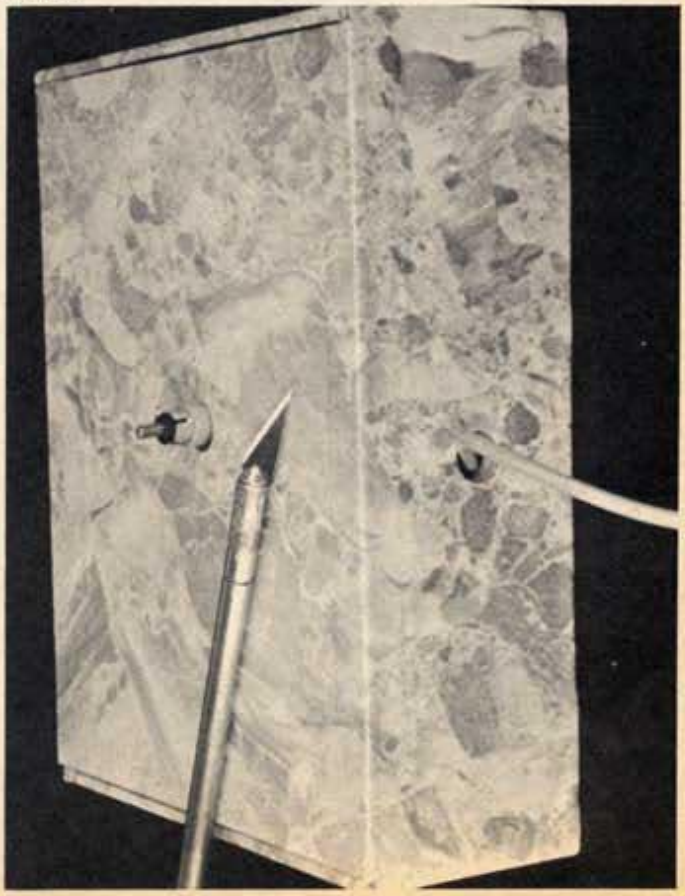
Instrument decal is from Monogram's Beer Wagon. Use whatever ones you have.

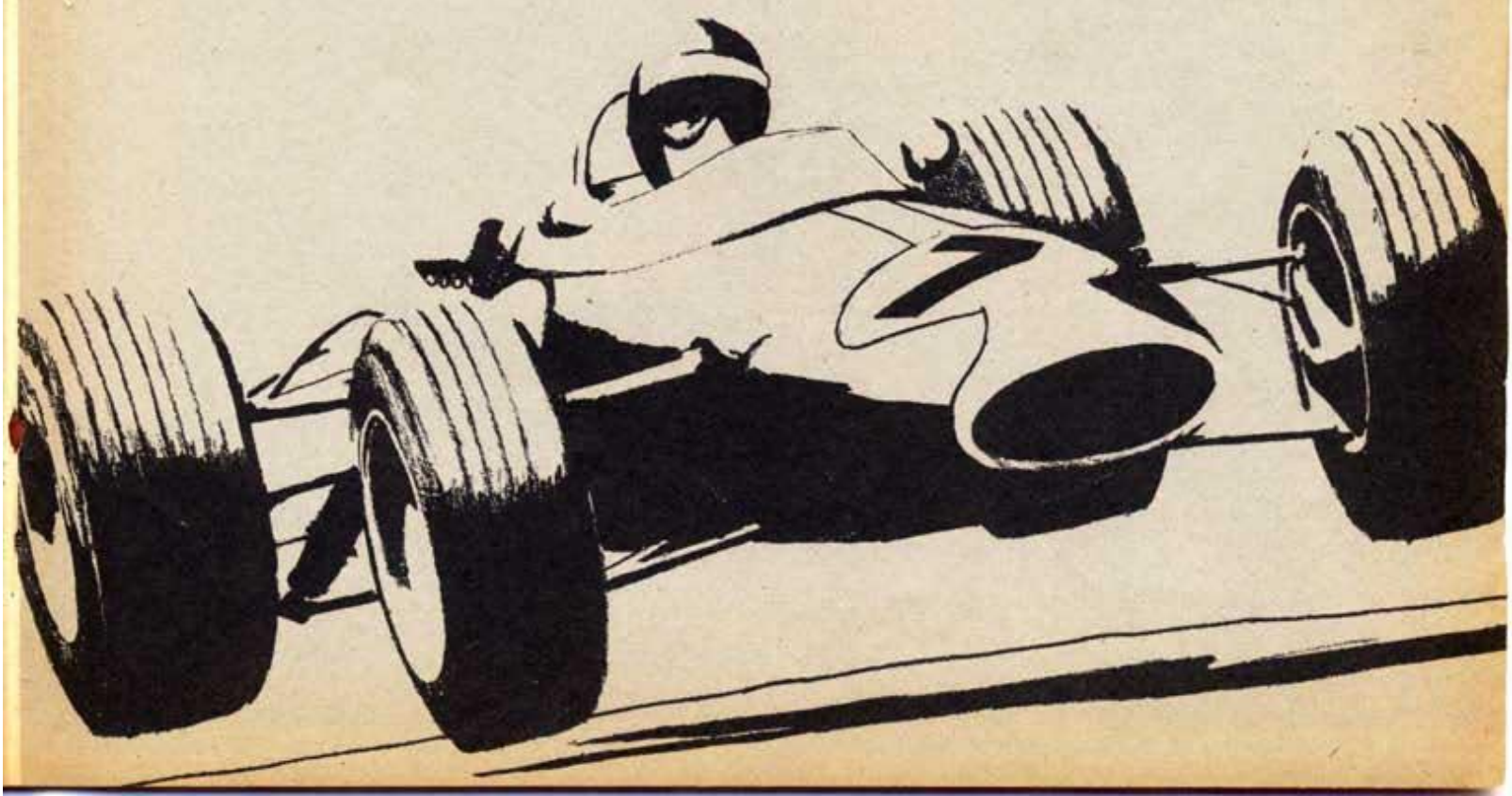
Punch a ½" hole in the side of a cigar box and one under where the phone jack will be, with the truck in place.



Drill a hole in each side of the bug catcher, bend up a throttle linkage from wire as shown. Also add fuel lines.

Cover the box with contact paper of your choice. Make sure it doesn't clash with the color of the truck.





HOW TO REWIND MOTORS

The name of the game is s-p-e-e-d, and how you go about getting it is spelled r-e-w-i-n-d-i-n-g. If you want to go fast, you rewind. Or . . . you can "cheat" a bit and buy someone else's handiwork, in the form of ready-to-win "hot" rewound armatures, or complete rewound motors.

There are many fantastic motor modification components on the market today. You can buy exotic items like gold plated commutators, for better electrical conductivity, right at the heart of the motor, rewind wire, special ball bearings, super magnets with three to four times the strength of normal magnets, powerful motor brush springs, and motor brushes made with up to 93% silver content, for excellent electrical conductivity.

The newest end bells, made of space-age plastic, stand up to nearly blow torch heat without melting. Hot armatures? You can have them rewound and epoxied, and even balanced and ready to insert in your motor case! You pay for what you get of course, and that's a basic truth that's really an inescapable fact of life!

But most of us are do-it-yourselfers when it comes to trying to extract that last ounce of power from our motors. It's really pretty easy — at least the concept is. It's the *execution* that separates the men from the boys. Neat work always tells in reduced lap times.

Here are a few basic facts that you can remember, which will help:

1. Decreasing the number of turns on the armature (dewinding) will *decrease* torque but *increase* r.p.m. For instance, if your armature has 90 turns of #31 wire, and you remove ten turns, the r.p.m. will go up, but the torque (twisting power, which determines to a great degree the acceleration your car will have) will fall off.

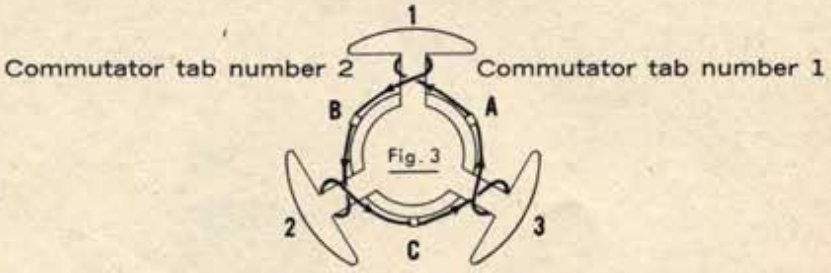
2. Increasing the number of turns will *decrease* r.p.m. and *increase* torque. This means you will have less "top end" and more acceleration, a very desirable feature on *most* tracks.

3. Only very long, super-fast tracks require motors with very high r.p.m. motors, where torque is not necessarily desirable. On this type of track, the cars seldom slow down to hairpin-negotiating speed, so the torque is not needed for acceleration as badly as it would be on a track with many slow curves, and only a few long straights.

4. The really desirable motor has a happy blend of torque and r.p.m., which makes it tough to beat on a great variety of tracks. If you race on one track, and one track only, you should wind especially for this particular track's characteristics. If it's a long, fast, screamer, wind for top-end speed, not torque. If it's slow and twisty, wind for torque, rather than top end.

5. Silver brushes, while they give slightly better conductivity, are not *really* necessary. Clean copper brushes, in good condition, work fine. Silver brushes do, of course, contribute to that last "nth" of power. By all means, however, use brush springs that are slightly heavier than stock (more tension) as an increase in r.p.m. usually results.

6. Be certain the armature does not have excessive end play, when installed in the case. If there is a lot of "slop", place extra washers on one or both ends, until the "play" is reduced to a minimum. This avoids armature "chatter" at high speeds, which results in a power loss. Use the washers to be sure the armature pole pieces are centered in the magnetic field.



POWER	TRACK TYPE	GEARING	MAGNETS	SIZE AWG	TURNS
Transformer	Home-Tight	4:1 - 5:1	French or Magnum 44	32 - 31	100 - 80
Car Battery	Home-Tight	4:1 - 3:5	Arco 33 or Magnum 88	28 - 27	65 - 50
*4 amp Power Pack	Commercial-Tight	3:7 - 4:8	Arco 33 or Magnum 88	29 - 28	70 - 55
4 amp Power Pack	Commercial-Med.	3:0 - 4:0	Arco 33 or Magnum 88	28 - 27	65 - 45
4 amp Power Pack	Commercial-Long	2:5 - 3:2	Arco 33 or Magnum 44 - 88	28 - 27.	60 - 40
Low amp Power Pack	Commercial-Med.	2:5 - 5:1	Magnum 44 - French	29 - 30	60 - 50
High amp	Commercial-Long	2.6:1 - 3.1:1	Magnum 88 - Arco 33	27 - 26	50 - 42

Doubles

33 - 30	Using double and/or parallel wound armatures
32 - 29	to get more wire on the following conversions
31 - 28	can roughly be made. Actually the double
30 - 27	wound armature will usually be slightly lower
29 - 26	in ohmage resistance.

IMPORTANT

Super-hot winds lose potency on loaded tracks on short amp supply. Too many "amp sucking" cars will hurt braking, torque, and top end.

*American

ARMATURE RESISTANCE AND VOLTAGE RATING CHART

NUMBER OF FEET OF WIRE REQUIRED

OHMS	WIRE SIZE #28	#29	#30	#31	#32	#33
.5	12.1	9.5	7.6	6.0	4.8	3.8
.75	16.6	13.2	10.5	8.3	6.6	5.2
1.0	22.6	18.0	14.3	11.3	9.0	7.1
1.2	28.7	22.8	18.0	14.3	11.4	9.0
1.5	33.2	26.4	21.0	16.6	13.1	10.4
1.75	40.7	32.4	25.7	20.3	16.1	12.8
2.0	45.2	36.0	28.5	22.6	17.9	14.2
2.25	51.2	40.7	32.2	25.6	20.3	16.1
2.5	55.7	44.3	35.2	27.9	22.1	17.5

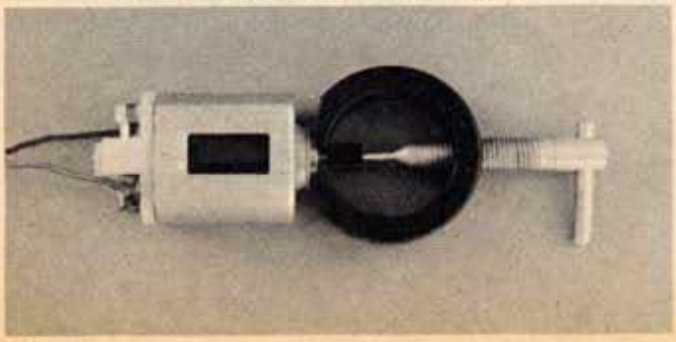
FOR THREE POLE ARMATURES

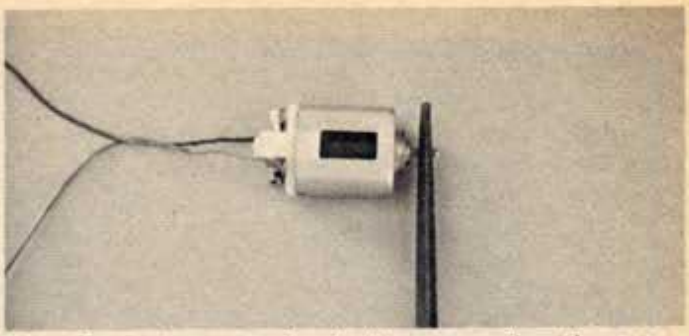
To determine the approximate number of feet of wire required for the resistance you want, do as follows: Choose the ohm rating you want. For instance, select .75 ohms for the resistance. If you intend to use #29 wire, follow the chart across to the right, starting from .75, and stop under the #29 column. The figure at this intersection is "13.2" which means 13.2 feet of #29 wire is needed. To determine how much of this 13.2 foot long piece of wire has to go on each pole, divide this number by three (three poles) and you get 4.4. Place a mark every 4.4" on the wire (use a piece of tape). Start winding with the first pole. When you arrive at the marking tape, wrap it around the commutator tab, and start on pole number two, and so forth.

NOTE: The voltage rating of a motor may be determined approximately if the armature resistance (measured in ohms) is known. A 2 ohm armature is usually rated at 12 volts, a 1 ohm at 6 volts, etc. You can easily figure the voltages in between. (A .5 ohm would be 3 volts, etc.) Generally speaking, the motor output can be increased by increasing the ampere turns of the armature, by increasing the wire size (the smaller the number, the bigger the size or diameter) and decreasing the number of turns. This decreases the armature resistance, allowing more electricity to pass through the armature, which results in more power.

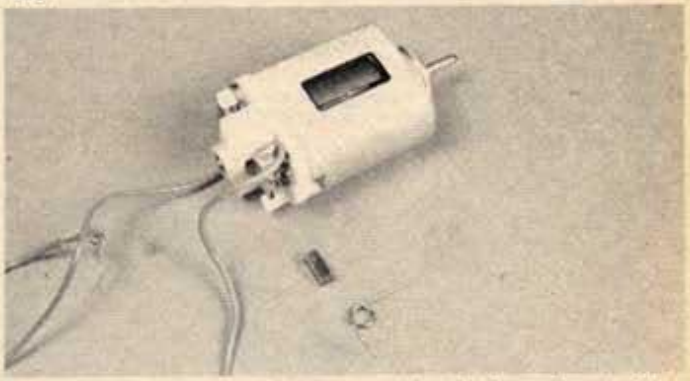
Special thanks to Simco Products, for the above information.

Remove the pinion gear with a gear puller.

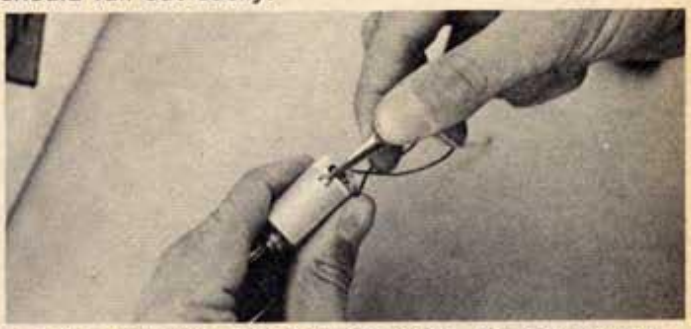




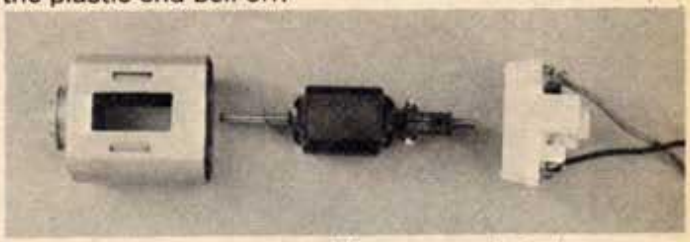
Turn the motor over slowly (by connecting the motor leads to a power supply) and carefully remove the splines on the motor shaft, using a fine-tooth file.



Unhook the end of each motor brush from beneath the retaining tab. Carefully remove the spring and tap the motor on the work bench. The motor brush should fall out easily.

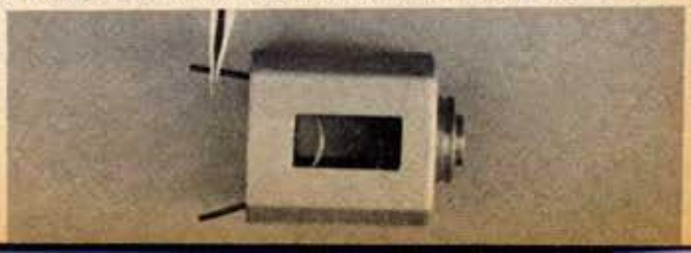


Lay the brushes and springs aside. Gently pry the end bell retaining tabs up on the motor case. Slip the plastic end bell off.

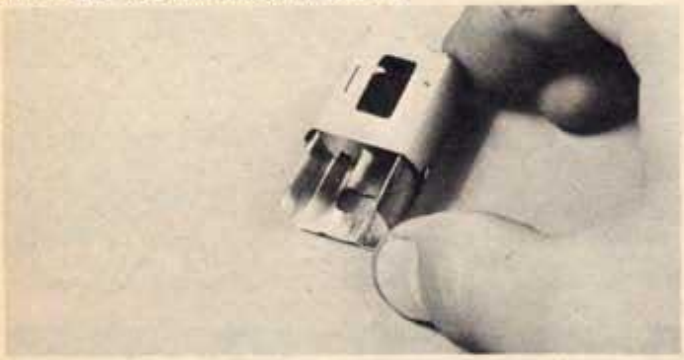


Remove the armature, taking care not to lose any small washers. Be observant when disassembling any part of the motor, so you will know how it goes back together.

If you wish to remove the magnets to clean or replace them with "super" magnets, or to install ball bearings in the case, now is the time to do so. Pull the magnet retaining spring out. Remove the magnets, noting which side each one comes out of. Usually they are color coded, and must go back in the way they came out. Now you can clean the case.

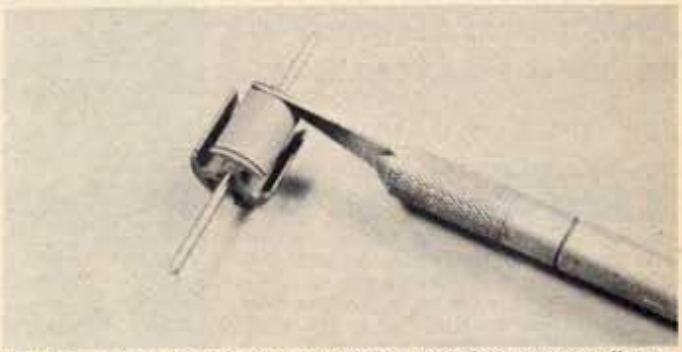


You simply reverse the procedure you used to remove the magnets, to re-install them. If, however, you intend to use Champion of Georgia "Arco" magnets, with shim, you must pry the locating tabs inside the motor down a bit. Slide the shim in, then slip the magnets in place.



Reach in through the opening in the case and push each magnet toward the wall of the case until it clicks into position in the shim.

Cut or unsolder every wire, at the commutator tabs. Remove all wire from the armature. Pull the old commutator off the shaft. If you intend to use the stock commutator, but want to change the timing (see special section on timing) cut the timing pin off.

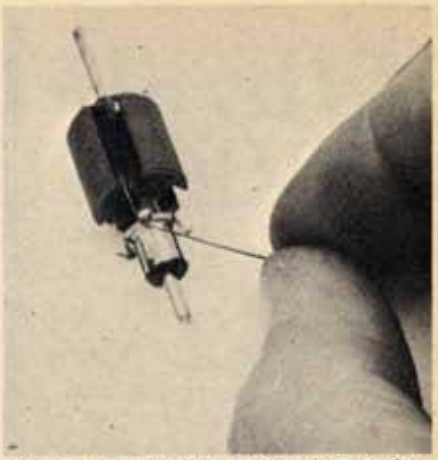


If you want to go to a "short stack" motor (less laminations) remove as many laminations as desired, with a sharp knife.

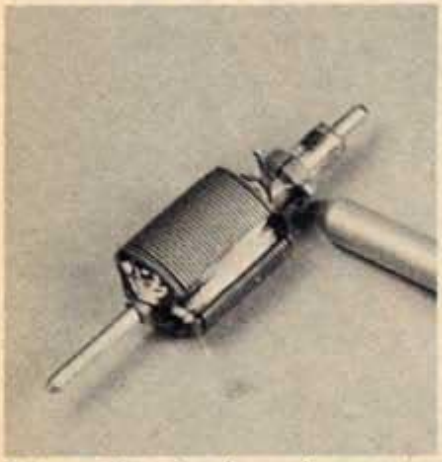
Coat the armature laminations with armature varnish. Slip Champion of Georgia plastic armature insulators on each end of the armature "blank". Press it against the wet varnish on the end of the stack. The varnish will act as a glue. Now place this entire unit in an oven, set at 200 degrees, for 10 minutes. Bake in an upright position.

Press the commutator on the shaft. If the old commutator is in good condition you can use it, but one of the new "blowproof" commutators is recommended.

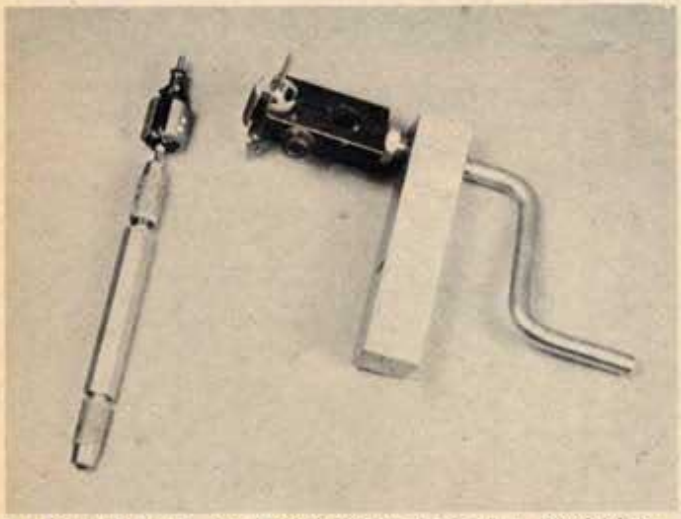
Look at drawing number one. Carefully sand the insulation from the end of the rewind wire. Wrap the wire around any commutator tab. Call that tab "A" and refer to the drawing. Start winding by wrapping the wire around pole number one. Wrap the desired number of turns around this pole (refer to our chart to select the number of turns suitable for you) making sure the wire is taut at all times, and laid in neat rows. Take your time.



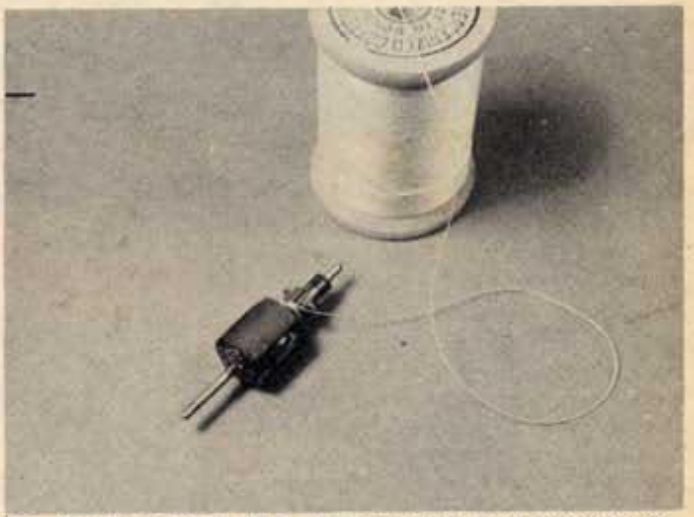
When you finish wrapping pole number one, sand the insulation from the wire and wrap it around commutator tab "B". Don't solder yet. Continue on, without cutting the wire, and wind pole number two, then finally pole number three.



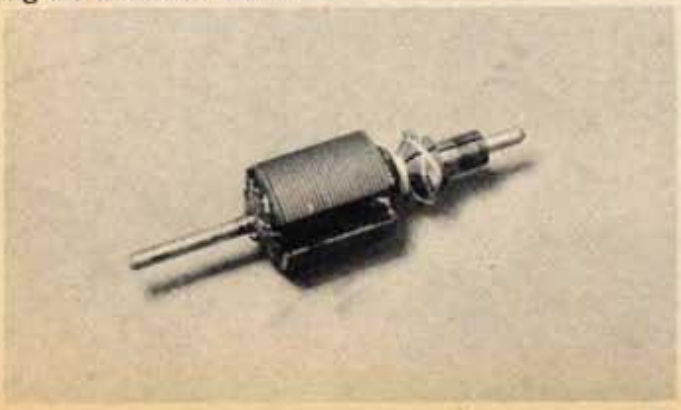
When all poles have been wrapped, touch each commutator tab with a clean soldering iron and a small bit of solder. Trim off the excess wire.

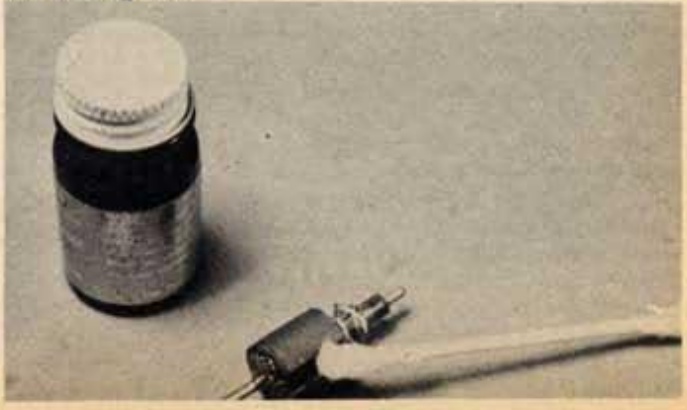


La Ganke sells an inexpensive armature rewinding tool that mounts in any vise. It makes rewinding easy and professional. A pin vise also makes holding the armature easier.



To firmly anchor the commutator and protect it from disintegrating at high speed, epoxying is necessary. Wrap nylon fishing line around the area below the commutator tabs. Finish by tieing the tabs together in a diamond shaped pattern as shown here. Use "regular" epoxy on the end of a "Q" tip. Work it into the wires around the pole pieces, and around the fishing line.





(Continued on page 57)

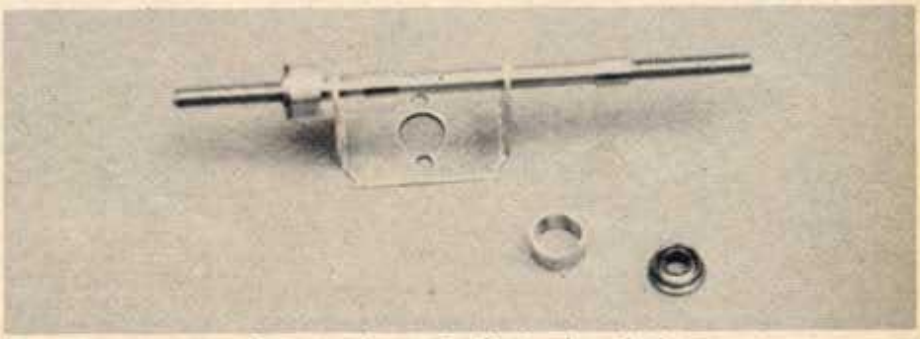
THE FLYING DOOR HINGE

Building an "all purpose" commercial track car

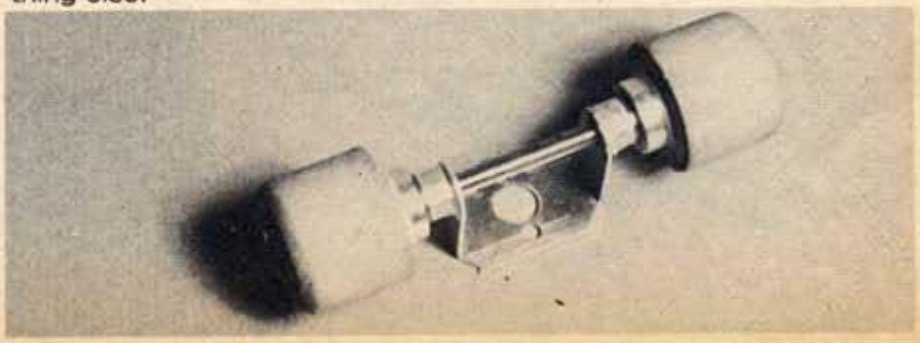
Flopping, hinged body mounting systems may have been the most recent pro trick to go fast, but why stop there. Just about everyone has tried a door-hinged body now. It's peculiar to turn marshall a car and not have it quiver a bit in your palm.

The LA pros aren't the only fast slot racers in the world. San Francisco slots have some quick things slipping through their slots too. The idea was to combine the two in a highly competitive car for both racing circles. There had to be a lot of problems in combining a 6 ounce rod and plate and piano wire frame with a 2½ ounce, two piano wire, no drop arm thingie.

The concept was to hang the SF frame to a hinge on the back of the motor bracket ala La Cucaracha. This was done by assembling the basic frame of the SF car, (which is simply a bracket and piano wire) complete with ball bearings, and soldering a 3/32" tube onto the backside of the bracket. A 1/16" piano wire is led through the tube and bent forward to serve as the



The SKF ball bearings are installed in the bracket by using 9/32" tubes. To center them properly place an axle with 5/32" tubing through the original holes and set the bearings and tubes over the axle. Solder the tubes in place and remove everything else.

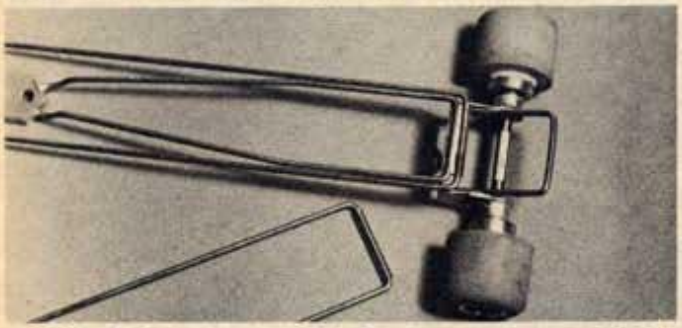


main chassis member. Both the front axle and the brass plate ballast are soldered to it. The second two pieces of brass plate were added to cope specifically with the rough terrain of certain LA tracks, and may or may not be necessary to suit your track. The hinged body mounts pivot from the inner plates and are set in pairs of unequal lengths to create a spring. The 1/16″ brass tube and piano wire hinges fasten to a .025″ plate of ½″ brass set at the body width. A small cage of piano wire is constructed on the hinge for strength and to raise the height of the pin tubes. Don't solder the pin tubes to the .025″ plate because this will invariably place the holes in the body too low when it is mounted, and tears will be frequent.

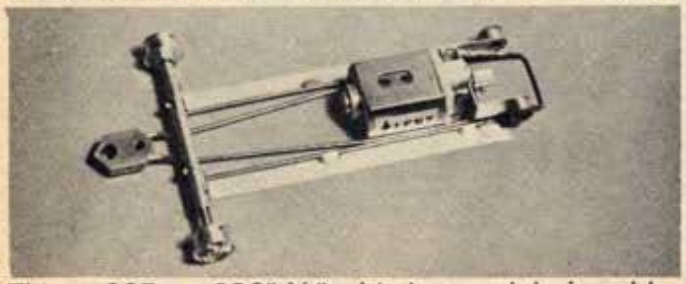
The body, in this case is Dynamic's McLaren Mk 3 lightweight. In addition to being "flower powered," it received a rear end spoiler made from a piece of Lancer interior. A diaplane for the front is also helpful on some courses, but seemed useless for the track for which this particular car would most often run.

In a series of savage test runs by myself and Glen Toma at various raceways, the car performed beautifully. The double 29 Lenz "Boss" can with its new "Can-In-A-Can" shim and Versitec magnets, really yanked the car along on the big straights. The drop motor design also took to the corners like a cat, allowing the "Boss" to really work out to build up torque for speedy exits. The frame remains solid at almost all times, and is easy to drive. The "best of both worlds" can be a winner!

A piano wire U-brace is soldered into the bracket to provide extra reinforcement.

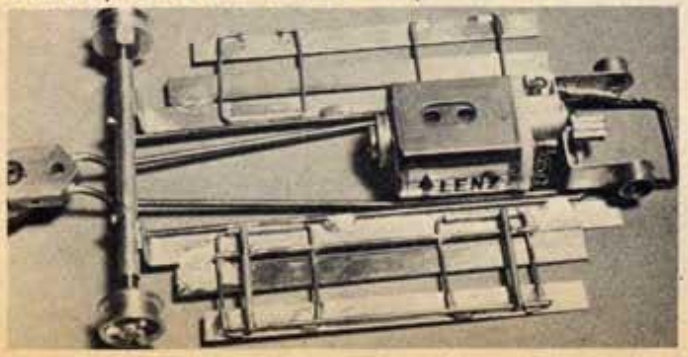


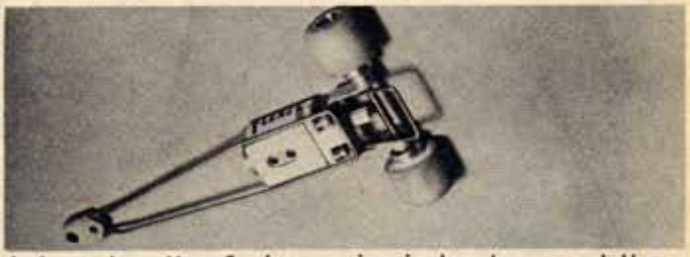
A 5/8″, 3/32″ brass tube is placed over a 1/16″ piano wire bent with 7/8″ between its parallel arms. The assembly is then soldered to the first piano wire allowing free movement of the hinge.



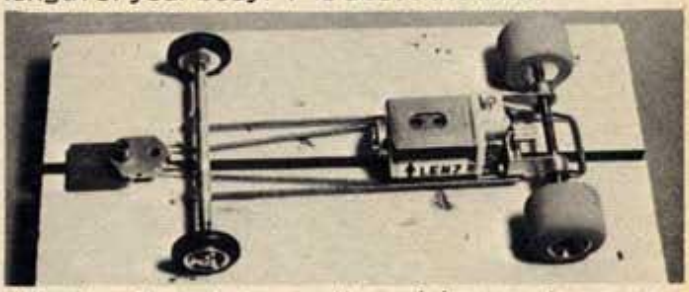
Either .025 or .032″ ¼″ wide brass plate is soldered onto the front axle and the piano wire chassis.

.025″ piano wire "cages" reinforce the mounts and help raise the level of the pin tubes.

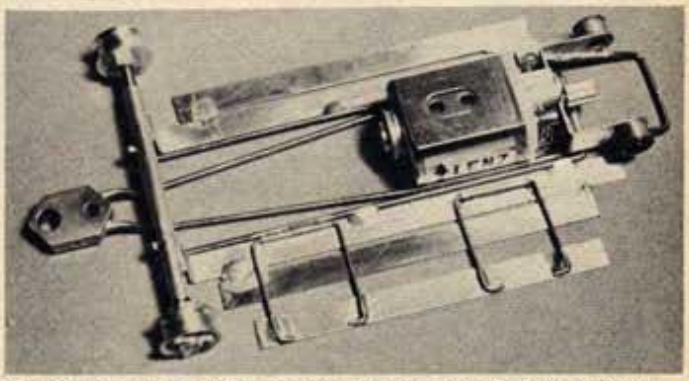




A long length of piano wire is bent around the brackets rear face, and both ends soldered to a pickup holder at the length determined by the length of your body. 4″ is about the limit.

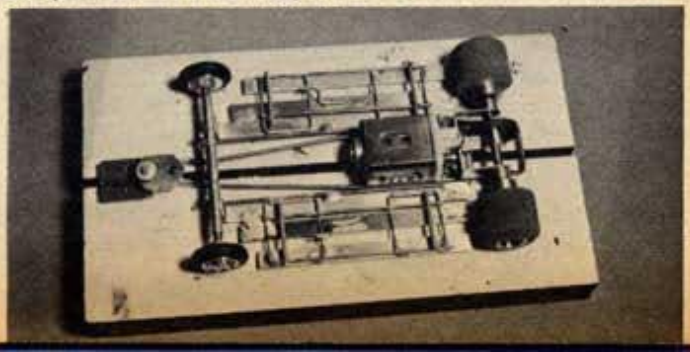


Allowing for whatever the minimum clearance may be, solder the front axle tube on. This set-up is a Riggen Mini-independent front end.



Carefully align the outrigger to the body width, then solder the piano wire hinges in place. Unequal lengths give the mount spring tension.

Upward movement of the hinged mounts is limited by the small angled stops located on the middle plates. The rolling frame is almost complete.



"PRODUCTION" SPORTS CAR RACING

Some of the most closely contested road races are held every weekend in some part of the country near your home. The competitors are sports cars of the type frequently seen on streets and highways across the land. To the Sports Car Club of America – the governing body of most American road racing –these cars are classified as "Production Sports Cars," which is their term for the sports cars produced in quantity, as opposed to the limited production modified sports cars that are built primarily for racing. The MGB, Triumph TR4, Austin Healey, and Sunbeam Alpine are typical examples of production sports cars. The Chaparral, Lola, and McLaren are typical modified sports cars.

The S.C.C.A. has divided the 100-odd sports cars sold in the United States into eight racing classes, "A" through "H," based on each car's potential performance. This class-grouping makes it possible for cars with roughly the same horsepower-to-weight ratio to compete effectively with one another within their own class. Cars in "A production"

only compete with other cars in the "A Production" class, etc. The following list indicates which cars fall into each class for 1968:

SPORTS CAR CLUB OF AMERICA
1968 PRODUCTION CLASSIFICATIONS

Class "A"
Cobra 427
Corvette 396*
Sting Ray 427*
Griffith 200
Abarth-Simca 2000*
Porsche 904*
Sting Ray 396*
Shelby GT500*

Class "B"
Aston Martin DB5*
Corvette 283 (Pre-'63)*
Ferrari Lusso 250GT, 2+2
Jaguar XK-E*
Shelby GT-350*
Cobra 289*
Ferrari GTO*
Corvette 327 ('63 & Later)*

Class "C"
Datsun SLR311U
Alfa Romeo GTZ
Elva 1800
Ginetta 1500
Lotus Elan
MG-C, MG CGT
Morgan Super Sport
Osca 1600GT
Porsche Carrera*
Porsche 911L
Simca-Abarth 1300
Toyota 2000GT
*Triumph 250**
TVR 1800 & Climax
Mercedes Benz 300SL*
*Sunbeam Tiger**

Class "D"
AC Ace Bristol
Alfa 2600
Arnolt Bristol
*Austin Healey 3000**
Daimler SP-250
Elva MkIV Ford
Fairthorpe Electron
Fiat-Abarth 1000dohc
Ginetta G4-1000
Jaguar Xk120, 140, 150*
Lotus Super 7
Marcos GT
Speedwell Sprite
*Triumph TR-4**
Turner-Climax
Turner 1500
TVR 1622
WSM

Class "E"
Alfa 1600 Sprint Sp.
Alfa 1600 Super, Duetto
Alfa 1600 Sprint CT
*Austin Healey 100-6**
Elva 1622
Fairthorpe Minor
Lotus Elite*
Morgan Plus 4
Porsche Super 90, 356SC*
Porsche 356A,B, C*
Renault Alpine A-108*
Sabra
MGB, MG BGT*
Triumph TR2,3*
Mercedes Benz 250SL*
Triumph GT6
TVR Vixen 1600 Ford

Class "F"
Alfa 1300 Veloce
Mercedes-Benz 230SL*
MGA-Twin Cam*
MGA1500, 1600*
*Sunbeam Apline**
Volvo P-1800
Alpine A110
*Austin Healey 100-4**
Lotus 7, 7A
Morgan 4/4 Mk V
Datsun SP311
Glas GT7000
Sabra Sport
Austin Healey Sprite 1275
MG Midget 1275
Fiat Abarth 0T1300
Fiat 124 coupe
Spitfire MkIII

Class "G"
Alfa Giuliettas
Sprite 1100
Datsun SPL-310U
Fiat 1500dohc
Honda S800
Matra*
MG Midget 1100
Porsche 1300*
Rene Bonnet CRB-1
Spitfire MkI, 11
Abarth 0T01000
Alpine A-108-1000
Fiat Abarth 700, 750, 1000, OT1000
Fiat 124 Sport Spider

Class "H"
Sprite 948*
Fiat-Abarth 850S,
Fiat 1200 Spider
MG TC, TD*, TF12250, TF1500
MG Midget 948
Morgan 4/4 Mk IV
NSU Wankel-spider
DB HBR-5
Honda S600
Fiat 850 Spider

◄ Production racing is something different in model car racing. Pictured here are a pair of Revell Cobras and a GTO.

Revell has just introduced four of the most popular production sports cars as inexpensive display models easily converted into slot racers.

You can race excellently-detailed 1/32 scale miniatures of most of these cars. Those marked (*) are available as either kits or cars in 1/32 scale from a number of kit makers. Your model car racing club can adopt a "Production" Class system similar to the S.C.C.A.'s by limiting the entries to cars equipped with these production bodies. In model car racing, the smaller size of the production car bodies, as compared to the modified cars, limits the production performance to the point that a separate racing class is necessary. The production models will turn slower lap times than the modified models.

The simplest method of assuring equal performance between your

Production Class cars is to limit the chassis and motor used to one particular brand or type. You can stipulate, for example, that all production class cars must use the brass Revell chassis with an SP80 motor. The exact components don't matter as long as every car uses the same brand and type. Naturally, each car must use one of the Production Class injection-molded bodies.

At least one club has held Production Class races with excellent success. This group found that the stock motor/chassis idea worked fine except that the larger cars won all of the races by virtue of their superior handling. Fortunately, most of these large cars fall in the "A" or "B" production classes. The club, then, formed two separate production classes; one for only "A" and "B" class cars, and the other for "C" through "H" class cars. In terms of the physical size of the car models, this classification is good enough, with the races between the individual cars in each class being extremely close.

You may have to search a bit to find some of the models that are marked as available on the above list. Some are only available by mail from England, while others, like the beautiful Revell MGTD and XK120 Jaguar have long been out of production. Some out-of-the-way toy or hobby store may still have one or two of the older kits left. The more popular current production sports cars like the Triumph TR4, Sunbeam, MG B, and Austin Healey have just been introduced by Revell as low-cost shelf model kits. Glue in the mounting posts from an old body, and any of these can be adapted to any 1/32 scale chassis.

With Production Class racing, you need look no further than a local S.C.C.A. race weekend to find full-size inspiration for your models. You'll find almost every color of the rainbow is used on these cars by their local owners.

MG-B is another example of the Revell kits. "B" is basically similar to brand new MG "C" if C's hood bulge is added from scrap plastic.

Triumph TR4 has low, racing-style windscreen, roll bar and cloth tonneau added to the stock kit's parts.

Body mounting posts from an old slot car body are glued inside the Triumph body to mount it to any chassis you choose.

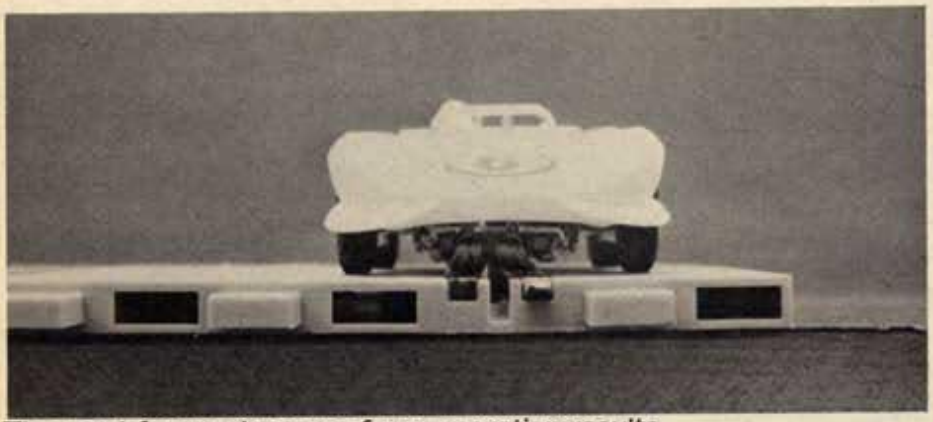
Production sports cars like this Jaguar, Triumph TR3, and MGA compete on equal terms in this type of class racing.

Car #31 is Revell MG B body, car #132 the Revell TR4 body. Chassis of three cars are identical so performance will be equal.

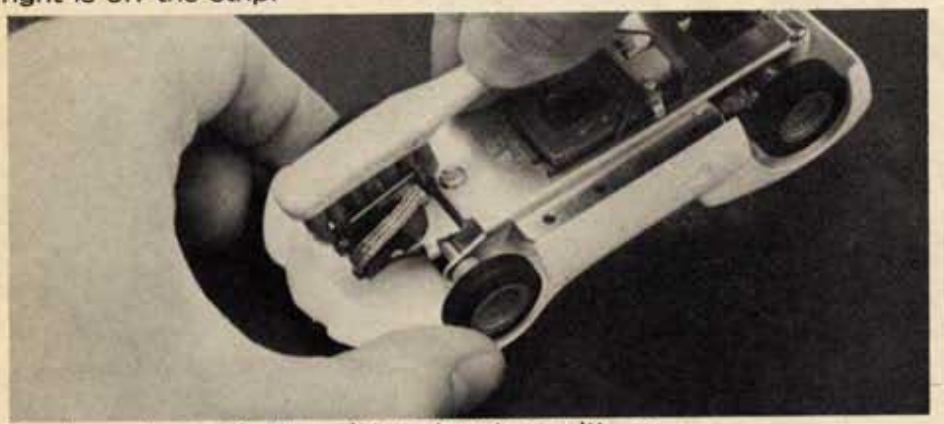
Revell TR4 passes a pair of MG As on the outside. Races are extremely close with emphasis on driver skill rather than builder's.

HOW TO "TROUBLE SHOOT"

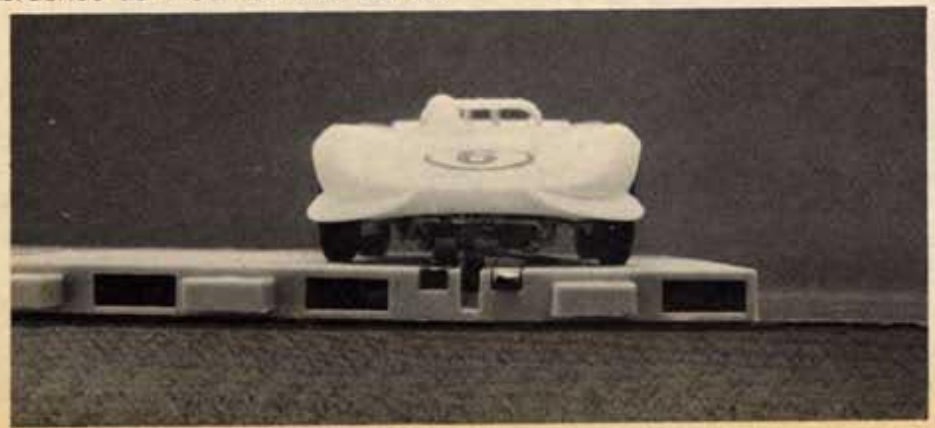
Problems with your slot racing equipment? Here's how to locate the difficulty and fix it in short order!



The most frequent cause of non-operation results from one or both of the pickup brushes not contacting the track pickup strips. Note brush on right is off the strip.



Brush and smooth the pickup brushes with an old toothbrush to remove lint and dust. Shape and spread each pickup brush to provide flat and wider contact on the track pickup strips. Entire width of both pickup strips on the track should be rubbed by each of the car's pickup brushes as those on this car do.

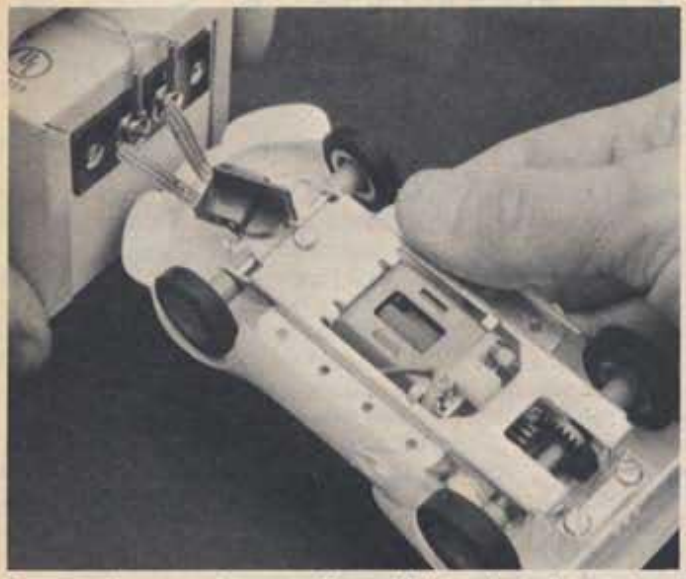


When you set up your home racing layout you expect to be able to race on it. Nothing is quite so exasperating as punching the controller only to have nothing happen. At this point, you're ready for some helpful advice . . . you want someone to tell you what's wrong, or at least to show you how to find out what's wrong.

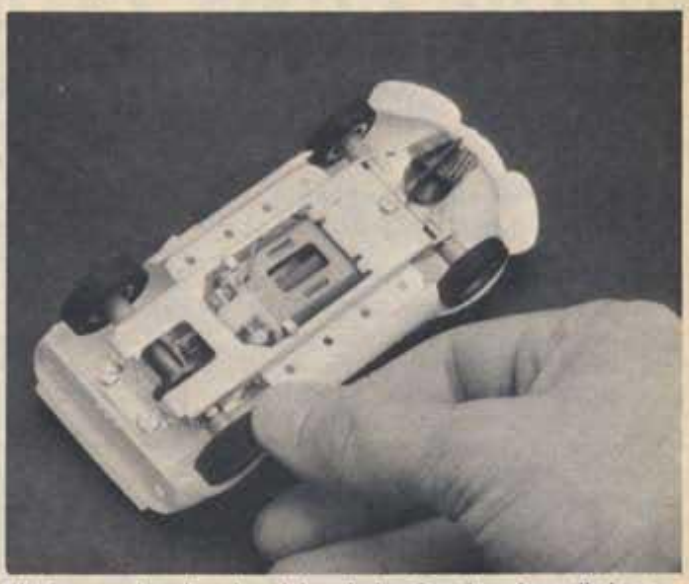
As you suspected, there are probably dozens of things that could be wrong, but just which one is it? We cannot, obviously, tell you exactly what to do to cure whatever is "sick" with your particular home set. What we can do is show the more common things that do go amiss and list them in the order that they are likely to occur. The photos and their captions will show you how to perform some of the check-ups and cures.

The most common cause of non-performance in a home racing set is either dirty or out of alignment pickup brushes, followed by defective power packs, controllers, or track sections that are not tightly connected – the electrical current won't flow if every connection and plug is not absolutely tight. The third most common trouble spot is a bind in the car's rear axle caused by an accumulation of dirt and lint in the gears, between frame and tires, or by a bent frame and/or body causing a tire to rub the body. Finally, either one of the wires connecting the car's motor to the pickup brushes, or the wires and contacts inside the controller are broken or not contacting as they should.

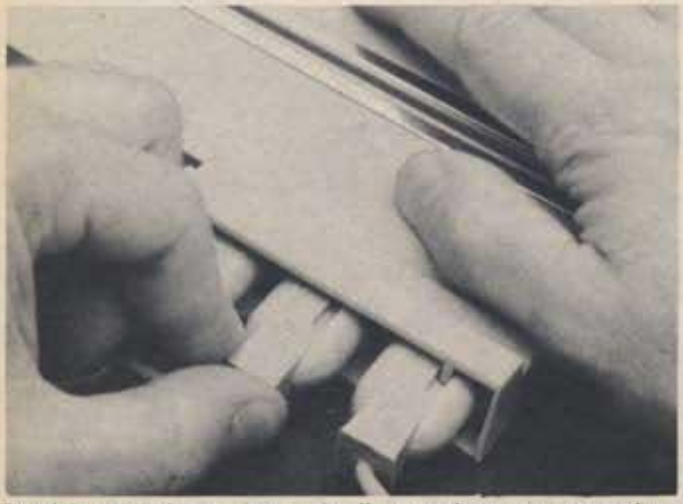
In checking for a "cure" which will fix your set, you should first try another car and/or another controller. If neither car or controller will work, try touching the car's pickup braid to the power pack terminals to see if the electrical current is reaching even that far. Most power packs are equipped with a circuit breaker that operates automatically whenever there is a short or when the power pack is on so long it gets too hot. If you are sure the power pack is plugged into the wall, and that it is on, wait a few minutes (with the power pack disconnected from the track) and try touching the car's brushes to the power terminals again. By following this systematic method of checking first cars, then controllers, then the power pack, you can usually isolate just where the trouble spot is in the shortest possible time.



If car does not run after pickup brushes are cleaned, touch brushes to power pack to see if fault is in the car or the track.

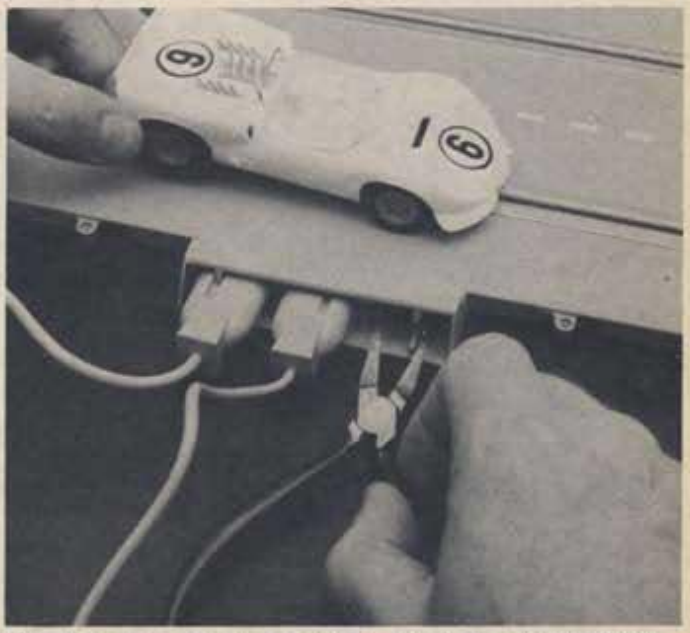


All four wheels should rotate freely. Any lint or dust can be removed from around the bearings and gears with a pipe cleaner.



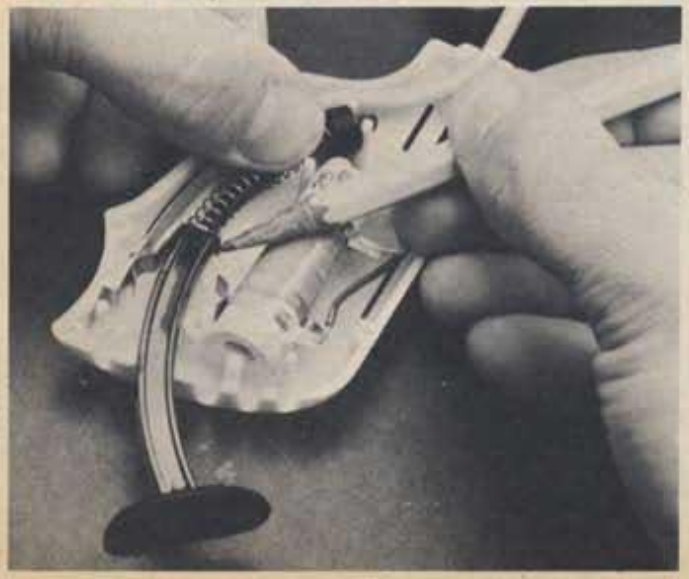
Double check each controller and power supply plug to the track, and to the wall outlet to be certain they are tight.

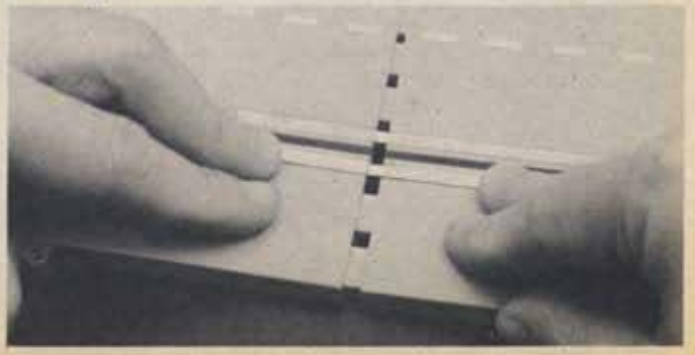
The controller contact spring must contact both the brass strip on the left and the resistor coils on the left. Adjust if needed.



Lift the rear of the car clear of the track and touch pliers to OUTER contact pins. If the car runs this way, but not with the controller, look for trouble in the controller or its cable.

Slightly loose track joints can rob power or stop cars completely. Be sure all track joints are always tight. Track and cars used in these photos are Monogram's, but all sets use similar equipment and, therefore, the same methods of locating trouble.





MODIFYING THE HOME SET CARS

Make a winner out of your 1/32 scale Strombecker car

Number four in a series

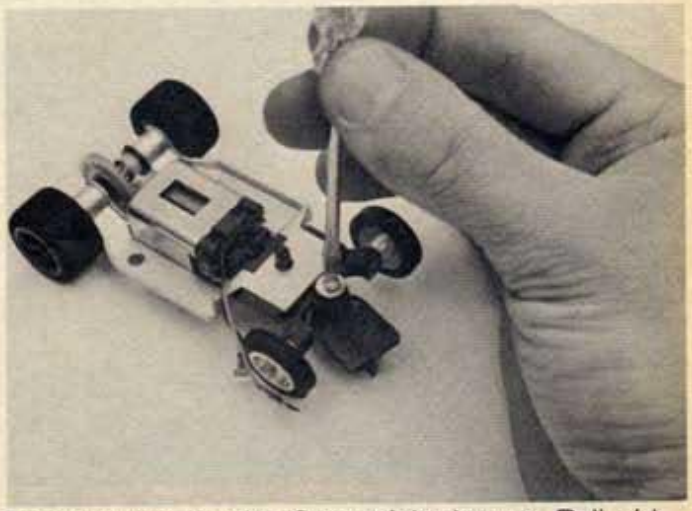
The latest design Strombecker home-set cars sport new bodies that rival the detail of their now-obsolete, but beautiful, Ferrari Testa Rosa. The better-scaled and detailed bodies include the Chaparral 2D shown in the photos (called an "American Coupe" by Strombecker), the McLaren Mark II, and the Dino Ferrari roadster. Other cars are offered, but their detail is not on a par with these three.

An aluminum and plastic chassis is held into the injection molded body with three press-in plastic pins. The chassis features independently-rotating front wheels, rigid construction, and the powerful "Hemi-style" can motor.

The body for the "American Coupe" is molded in bright maroon plastic. Spend a few moments trimming away the excess "flash" around the windows and sanding off the mold lines on tops of fenders and doors, prime-paint body with 2 coats of AMT flat black and 3 coats of white, and add number and "P" decals for a realistic copy of the full-size 2D Chaparral that won the 1966 Nurburgring 1000 kilometer race for an American first.

The Strombecker home-set car is made ready-to-run by simply attaching the body to the chassis with the three plastic pins supplied. Replace the motor brushes with LaGanke's silver brushes, add a new Cox quick-change pickup, a 1/32" x 1½" x 2" piece of K&S brass for a "pan," and AJ's black closed cell tires and wheels to the rear, along with a threaded axle and a 28-tooth Tradeship crown gear.

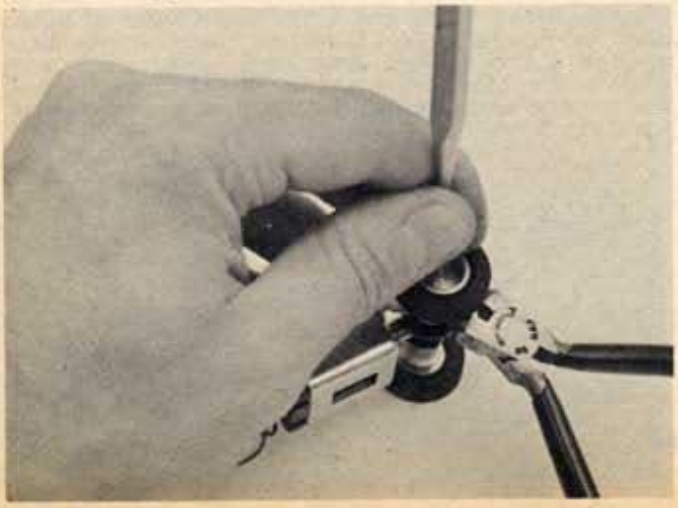
Newest Strombecker home set chassis is light, but rugged. Independently rotating front wheels, "Hemi-type" motor are features. Only a few parts are needed to step up the performance of the Strombecker cars.

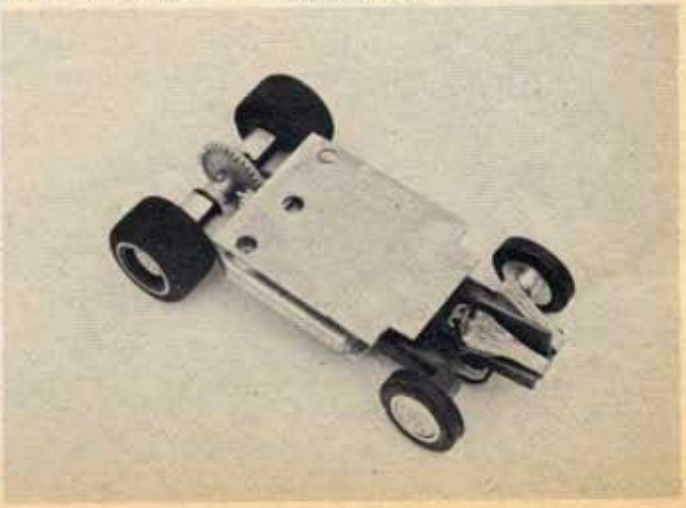


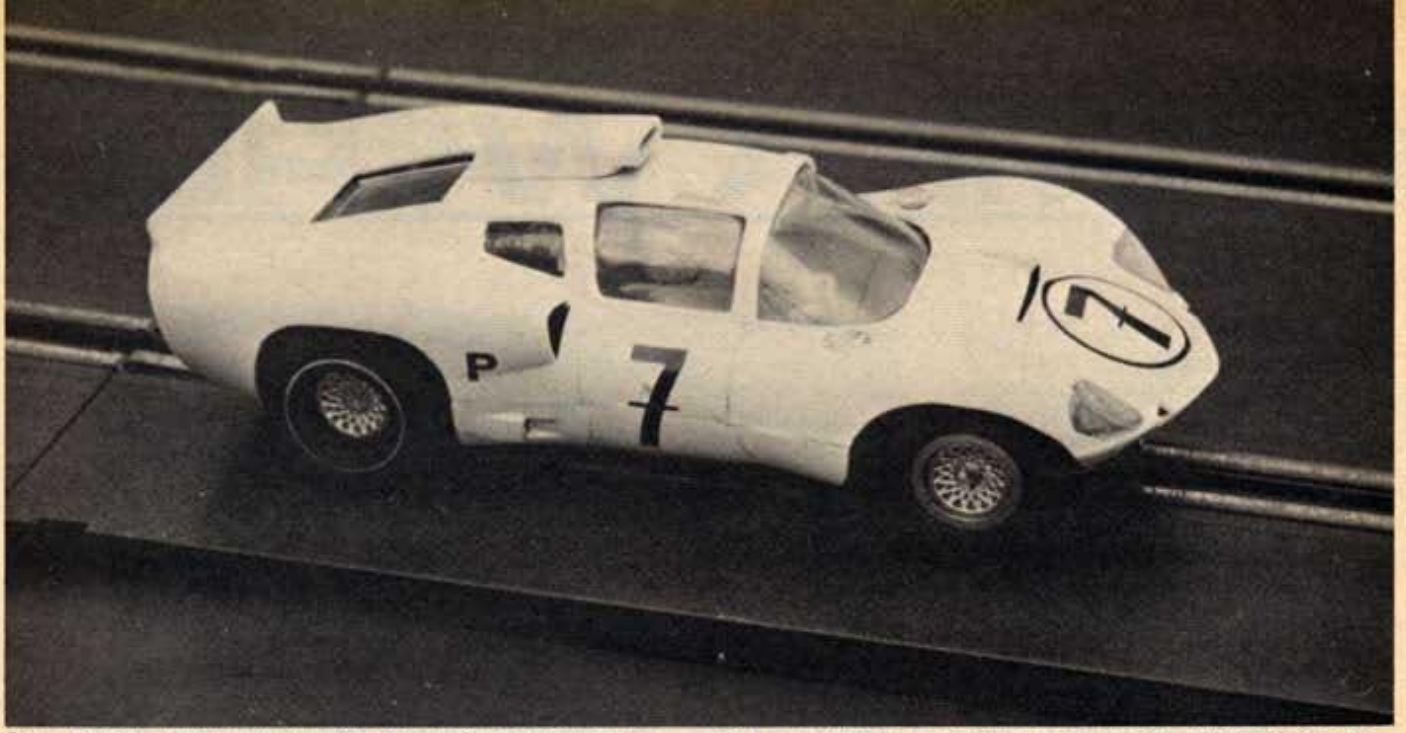
Replace pickup with Cox quick-change. Pull old attachnig clips from motor wires so the wires will be long enough to reach new pickup.

Grip the back of the rear wheel with pliers, hold over edge of table, and drive out rear axle with a punch or large nail.

Closed-cell rear tires and wheels are ½" x ⅞" dia., adding to width at rear. Threaded axle holds them and the 28 tooth crown gear. K&S 1/32" x 2" brass is cut and drilled for the chassis pan, then Pliobonded to bottom of motor.

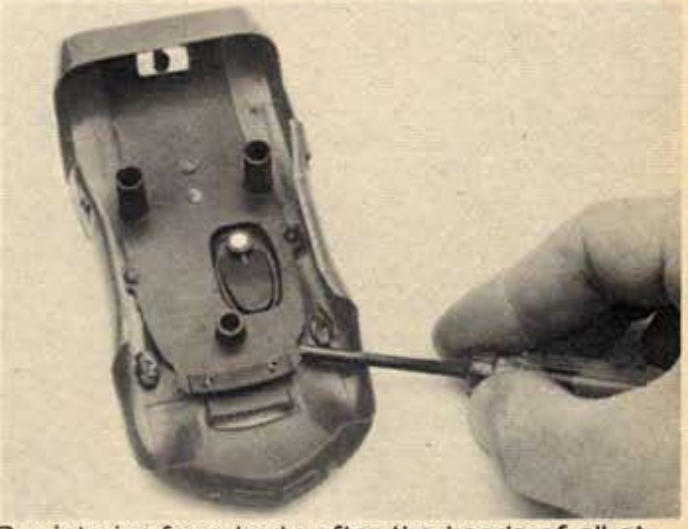






Cox decals were used with the thin crossbar on the number cut from a number one and applied over normal "7." Headlights were visible on full-size car. "P" is a dry-transfer decal. Wheel inserts are from Champion. Body lines were accented by slicing thru to black primer with knife.

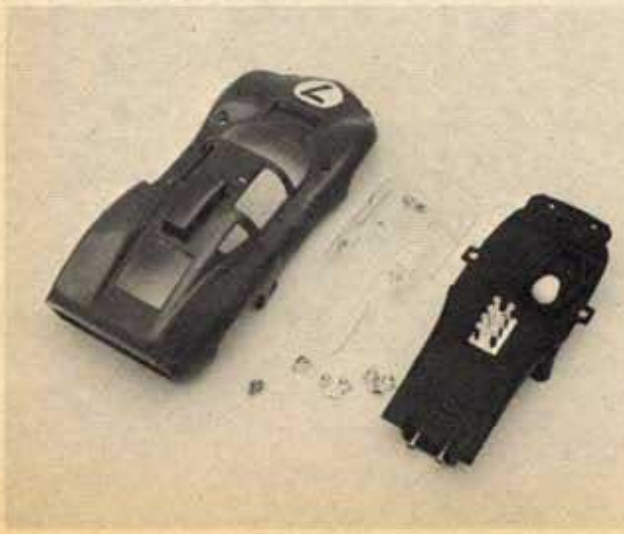
The December 1966 issue of **Model Car & Track** featured plans and photos of real 2D Chaparral.

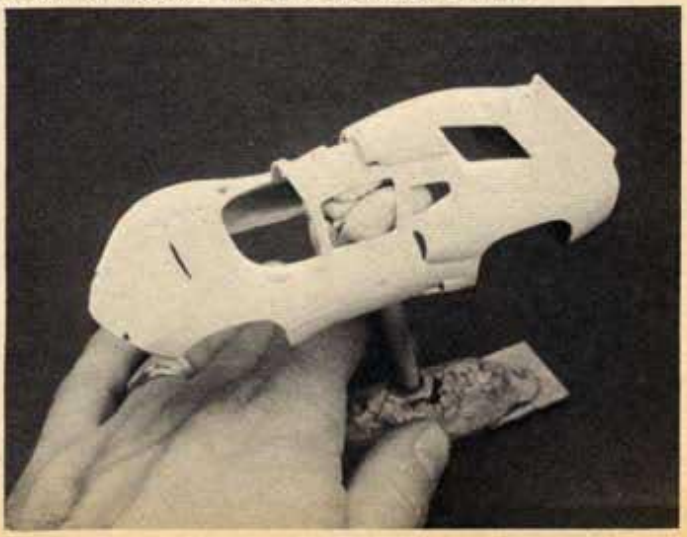


Pry interior from body after the heads of all attaching pins have been sliced off with a hobby knife or single-edged razor blade.

Body weight can be reduced by making thin duplicates of windows and most of interior in a Mattell Vac-U-Form.

Smooth edges of windows, nose, and doors, then spray two coats of black primer and three coats of white, allowing a day between coats.





NAMRA WORLD

The fifth race in the 1967-1968 championship series was hosted by the Closter Plaza Sports and Hobby Center in Closter, New Jersey. The event was for 1/24 sports and GT cars.

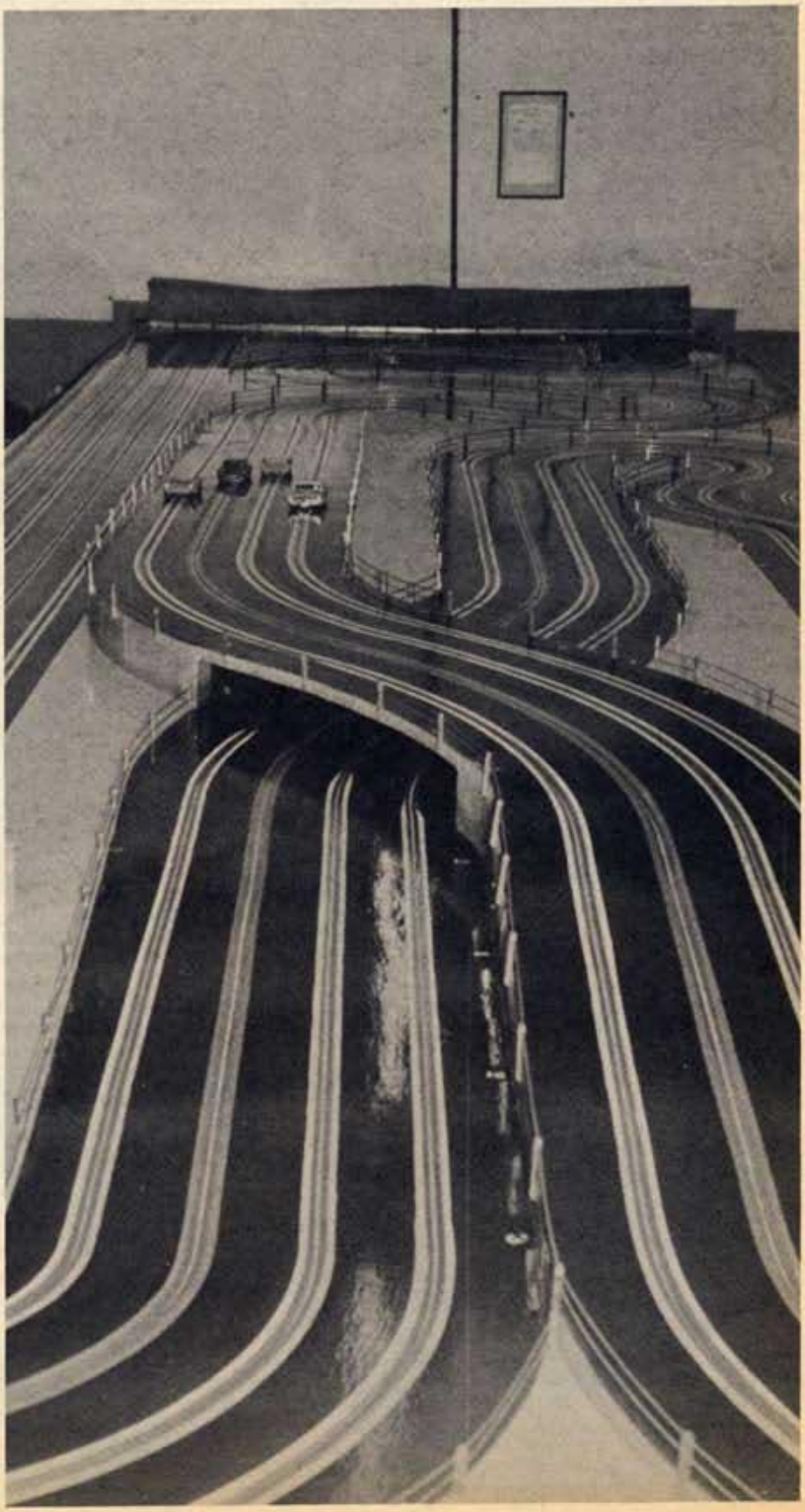
The Closter track deserves a great deal of praise for helping to make this a very successful race. The five track layout has every possible convenience for staging a championship race.

The track itself was extremely fast. It could be driven flat out from the start-finish line into a high-banked left-hand turn, down the long 70 foot straight, and then into an enormous left-hand banked turn. The bank led into a short 20 foot chute, and it was not until the end of this short straight that it was necessary to use any brakes at all. The rest of the course consisted of a series of flat 180° turns leading back to the line. This section called for a real handling car.

As expected, all the high point NAMRA drivers were there for this one, and practice was the usual shambles of last minute preparation. Roy Wong, the current high point man, showed up with a chassis chock full of idler gears, this arrangement locates the motor farther forward for better balance. The car handled beautifully, despite several hex signs cast on it by some of the competing drivers.

Most of the cars featured some form of loose body principle, though the designs proved that California thinking can be redesigned and still work.

Ready or not, qualifying got under way on time. Top qualifier Steve Nielsen ripped off a record 14.27 laps for two minutes, and broke the track record that had been held previously by a "thingie" of unmentionable dimensions. The fact that Nielsen had never run this track before added all the more to the achievement, to say nothing of having done it *in traffic!* Qualifying right behind Nielsen were young old-timer Sandy Gross, Roy Wong and old *old* timer Charlie Cressi (he just doesn't tell his thumb how old it is). Making it into the semi-final were new man Charles Hansen, Fred Correnti, John Dillon known both for his local ac-



Some of the NAMRA people who help carry the message half way 'round the world, l-r: Al Buckley, Noel Pietersen, Andy Louw and Dennis Buckley at Roues Volantes.

tivities with 1/32 cars and 1:1 drag machinery, and Frank Bianchi who kept mumbling something about a new secret threat he had come up with.

The consolation race qualifiers were Allan Wolpert, Jose Rodriguez, Pete McCarthy and Ed Loo. The Consie was one of those things straight out of a Western chase scene. Wolpert jumped out in front in this 100 lap ding-dong, followed by Loo, Rodriguez and McCarthy. Wolpert looked invincible as he lengthened his lead on every lap. This came to an abrupt end on lap 17 when he hit the wall in the big sweep. A bent axle let Loo, McCarthy and Rodriguez get by, and for all practical purposes Wolpert was out of the race.

There was now a nose-to-tail battle between McCarthy and Rodriguez for second place, and by the 40th lap they were fighting for first both having passed Loo who was now in the slow lane and bouncing off the turn marshalls. At lap 50, McCarthy lead Rodriguez by 1 second and both had 2 laps on Loo. At lap 80, Loo was out of the bad lane and McCarthy was in it. Rodriguez immediately took over the lead. Thumb-struck by this unexpected turn of events, Jose promptly put his concours Ferrari into the wall and onto the floor, letting McCarthy and Loo get by. Loo was making up gobs of time on McCarthy, and he was only 3 seconds behind when Pete McCarthy crossed the finish line. Rodriguez was a close 3rd and Wolpert a distant 4th.

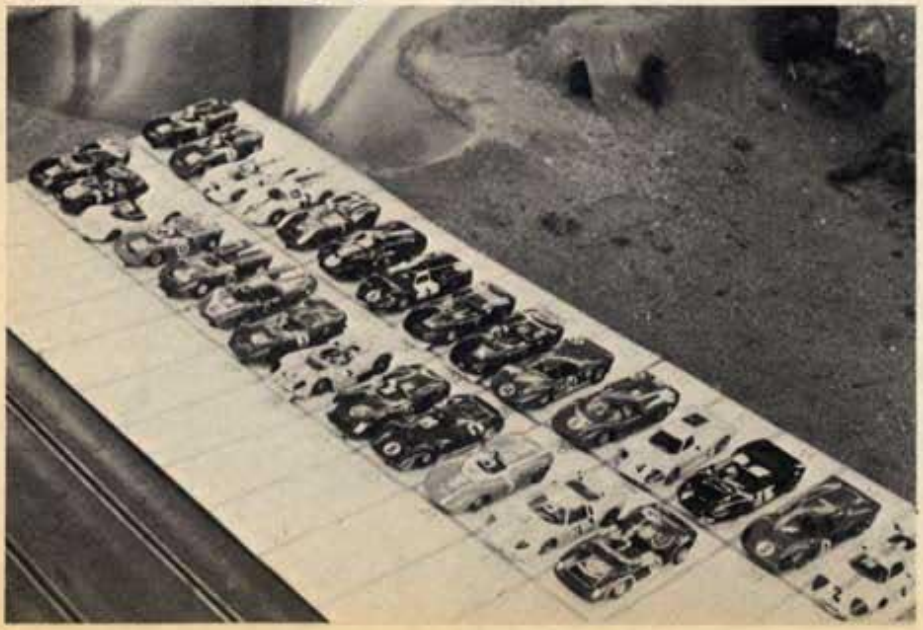
The semi was Fred Correnti all the way. He took the lead in the first sweep and held it for 30 laps. Dillon took the lead for three laps when Correnti went to the slow lane. Not able to take the prosperity, Dillon went onto the floor putting him from first to last. Correnti then motored the rest of the way home. A real battle had developed between local driver Hansen and Bianchi. Bianchi's car was the first sliding pan 1/24 car seen in major competition this season. While it didn't have quite enough go in the straights it was a wonder to behold in the corners. The final order of finish was Correnti, Dillon, Bianchi and Hansen.

Mix the four top qualifiers (one of whom had just broken the track record), a fast track, and 160 laps, and you have a recipe for excitement. Add a touch of broken lead wire, a chewed-up crown gear and one simmered motor and the results are wild. All this, was served up in the main event.

Steve Nielsen, despite starting in the slow lane, took the lead at the start followed very closely by Gross. At lap 10, Gross passed Nielsen but could only hold him at arms length. Wong and Cressi were snuggled up together in 3rd and 4th place. This two part race held for 70 laps. On lap 71, Cressi put his car onto the floor doing ugly things to his lead wire. By the time he got back in he was 9 laps back of the pack. Nielsen, in the meantime, had moved to a better lane and was right on Gross's tail. Going a little too deep into a turn, he spun violently and went tail first into the barrier. This shunt wiped out his crown gear. And even with a quick gear change it cost him 15 laps.

With Nielsen out, Gross seemed to ease up a bit and Wong began to make up big chunks of distance. With half the race gone, Wong was two laps back of Sandy. With 20 laps to go he had gotten back on the same lap with Gross and Sandy could be heard muttering about a hot motor. With 10 to go, Wong was a half a lap back. But, the unflappable Sandy hung on and finished just three feet ahead of Wong at the finish. A great performance by Gross and Wong, a disappointment for Cressi and Nielsen and a rousing cheer from the many spectators for the closest race of the year.

Pre-registered cars begin to fill the concours judging board prior to qualifying.



Jose Rodriguez added another trophy to his growing collection by winning concours with what had started out as a beautiful P4 Ferrari. At the end of the 5th race in the NAMRA Championship 1967-68 season the top five point drivers are:

1. Roy Wong
2. Charles Cressi
3. Fred Correnti
4. Steve Nielsen
5. Jose Rodriguez

The end of this race marked also the end of NAMRA-sanctioned, NAMRA-sponsored races. Next month's race report will be for the first NAMRA-sanctioned, *Model Car & Science*-sponsored Championship race. The race is scheduled to be held on the very fast road course at Hobby Track in Levittown, Long Island and the program reads, 1/24 GP, which means, some of the fastest cars in the country.

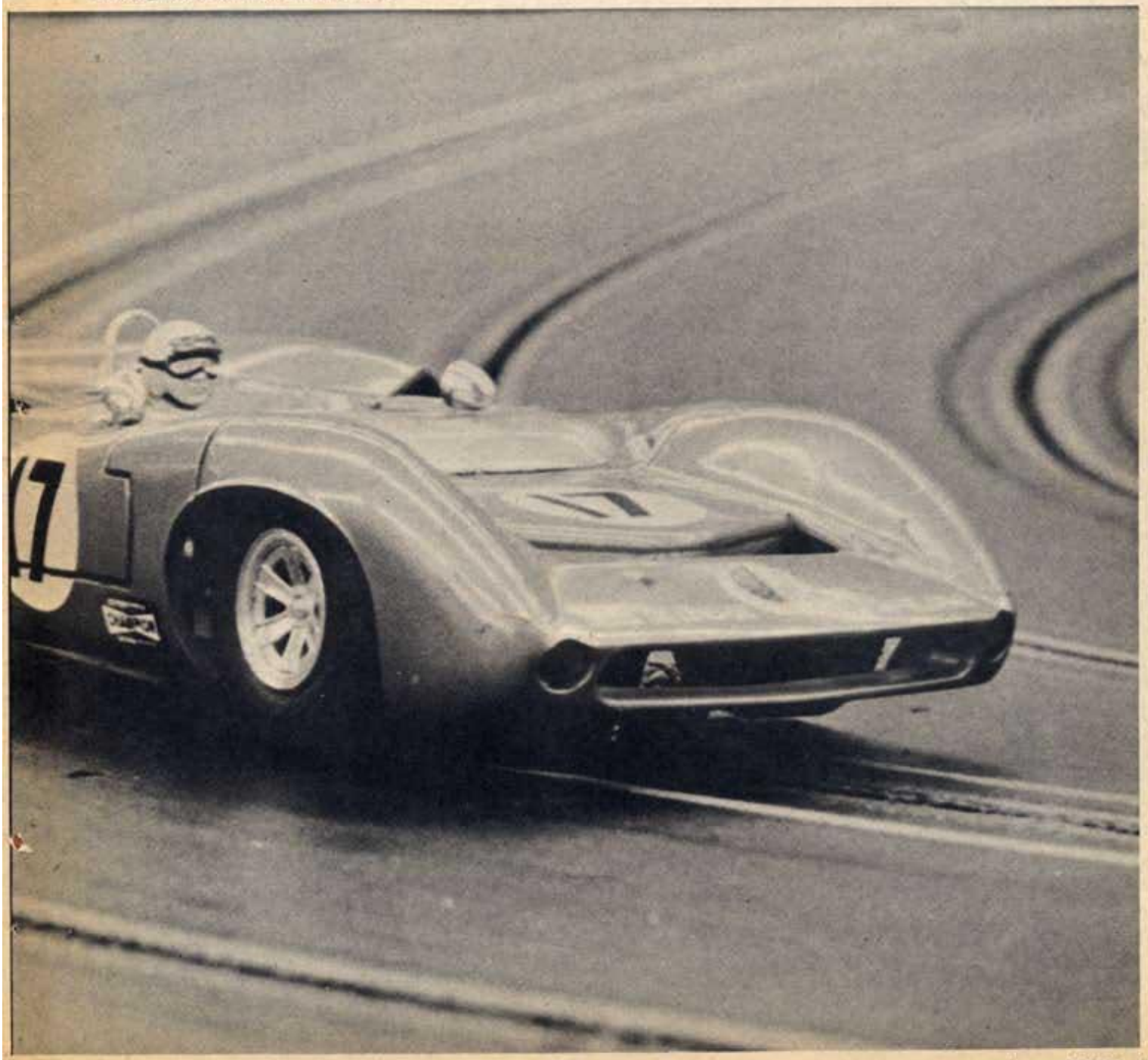
We've cut down on this month's pictures to include some shots from some of our members in South Africa and their recently completed club track.

The concours judging with the reaching hand of master builder Frank O'Conner going for his choice.

Even some of the 1:1's in South Africa are sporting NAMRA stickers, check upper right.

NAMRA WORLD

Without a competitor in sight, a big T-70 glides through one of the "flat-ones."



HOCCI WORLD

The March '68 issue of this magazine introduced for the first time, the writing of a young gentleman who must rank as one of the hard core enthusiasts of H.O. scale racing, Mr. Dennis Elliott. HOCCI wishes to congratulate both Mr. Elliott and MC&S for securing his services. He should prove to be a contribution to both the magazine and the sport.

Now, as to why HOCCI WORLD appears here. When NAMRA, the parent organization selected *Model Car & Science* as its official voice several months ago, it was also decided that the H.O.'ers too should have voice, and what better way than in HOCCI's own monthly columns. This is the first.

Before getting into the heart of this column we should like once more to remind all of our HOCCI members of these few basic facts which will make life a bit more tolerable for all of us. *Please*, when you write HOCCI *include your membership number.* As was explained to our members, the original filing system did not allow easy tracing of members by name. This system has since been revised and cross indexed, but it still saves time to give your number, *and that means, we can serve you more quickly.*

The second item is this, many of our members are young people who, sometimes in their rush to send for membership, do not include a return address, and in rare instances, membership fee. The latter we can remind you of, the former we must only hold and wait, until you become disenchanted and your parents fire off an angry letter to us. Again, *help us to help you.* We can not send you your membership packet unless we know where you live. Slow down just a bit, it only takes minutes more.

The third and last item is to once again remind all of our members that there is no monthly newsletter being sent, or offered. We do send one out for special notices and or events. And, we're sorry to report that our supply of all back numbers has been completely exhausted. Our latest one reported on the first HOCCI INVITATIONAL and latest rule changes and additions.

We will now continue with this same policy of newsletters only on special occasions, since with this monthly column you have in effect a newsletter complete with pictures when available.

Now here's a bit of information worth reading. If you are planning to join HOCCI for the first time, or you are already a member who renewed his membership before March 1968, you can subscribe to this magazine at a very special, below newsstand rate *that is being offered to HOCCI members only* by the publishers. If you wish further information just write HOCCI c/o NAMRA, PO Box 578, Times Square Station, New York, N.Y. 10036 and ask for an application form. Members not yet having renewed for the year are now being sent notices and applications, so watch your mail.

With that said, back to Dennis Elliott, who is both a HOCCI member and the president of the Spartan Racing Team down Pampa Texas way, a real enthusiast group from what we hear. Dennis' first column in the March issue asks that any HOCCI member who has a large 4, 6, or 8 lane track to please register it with HOCCI, and he has guessed the reason. One of the big holdups in competitive international racing is the scarcity of suitable tracks for competition. First it does not cost anything to register your track, but we do require the following information from you: number of lanes, power, lap distance, your name, *membership number*, and, your age. In giving us the above information you are in effect telling us that you do have a suitable track for competition and that we may at some future date call upon you to have your track used as part of a nationwide circuit. We need this information *now* if we are to make any moves towards a national events calendar, but we cannot do it without your help.

The second part of Mr. Elliott's column that pertains to HOCCI is well received, and in reply we can tell you this; we have for almost a year now been observing little races here abouts and noting problems. We do read all of our mail and take notes on suggestions which are then funneled to our Competition Committee. And most important of all, we do realize that some of the original HOCCI rules need updating and we plan to do this. It will mean that eventually a new revised rules book will have to be written and as soon as it is, you will read about it in this column.

Mr. Elliott has some suggestions re car classifications as they are now listed. He apparently does not feel the need for a "Stock" class, and moves that it be abolished. What Mr. Elliott is perhaps not aware of is that, according to our files, more than two-thirds of HOCCI is a much younger group than he races with, and this majority does race "Stock" out-of-the-box stuff. We will not cut these members out of competition by doing away with the class. It means double the number of classes of course, but if we are willing to go it, then until a better solution is brought forth it must remain. No other slot-car governing body has a similar, "Stock" provision, (including NAMRA) but then no other slot-car governing body has such a large percentage of its membership in the age group that makes up the majority of HOCCI's membership. And as for 1:1 governing bodies, we hasten to remind Mr. Elliott of Production Class, and Modified Class.

Depending upon response to this situation from the membership, it may well be that the HOCCI rules re classification will follow the procedure used in NAMRA in that there will be:

A. Gran Prix—Any formula car from '54 to present.
B. Sports Racing
C. GT or GT Prototype
D. Grand National Stock (stock shells)
E. Modified Stock (modified shells)

And with this, if you can stuff it in, you can run it regarding motors, stock and modified. But this will take some very careful consideration.

As to car numbers, mandatory dimensions, and tire coloring, this has already been taken into consideration and will be put into print. And what it will eventually mean is that either you come loaded for bear, or don't bother, and it will be flat-out competition. We would like to hear your opinions if you are a HOCCI member.

HOCCI once again comes up in Mr. Elliott's second column in April. In part we agree with him. Aurora does indeed seem to have the lead

(Continued from page 41)

in most popular powerplants; the support received by those within the H.O. world was indeed heart-warming. As to his criticism of the HOCCI classifications being weak, we admit it needs revision. As to the "botch-up" noticed in the race results involving the placement of a Camaro in GT, we remind Mr. Elliott that though 1:1 racing does provide for the Camaro as a sedan in the Trans-Am series, HOCCI (as yet) has no Trans-Am classification, and since the race in question offered only road racing for GT and Sports, it was decided to run the Camaro as a GT sedan and at least have it run. The car's young owner back in Ohio had at least made the effort to send a car. This is not to say that this "good-guy" attitude will prevail at future meets—this could only lead to disaster—but this was the first time out for most entrants, and the first time out for HOCCI. HOCCI can always call upon technical advice from its parent organization and as most people know, when it comes to hard, tight rules, NAMRA does not budge *regardless of who becomes a spectator.*

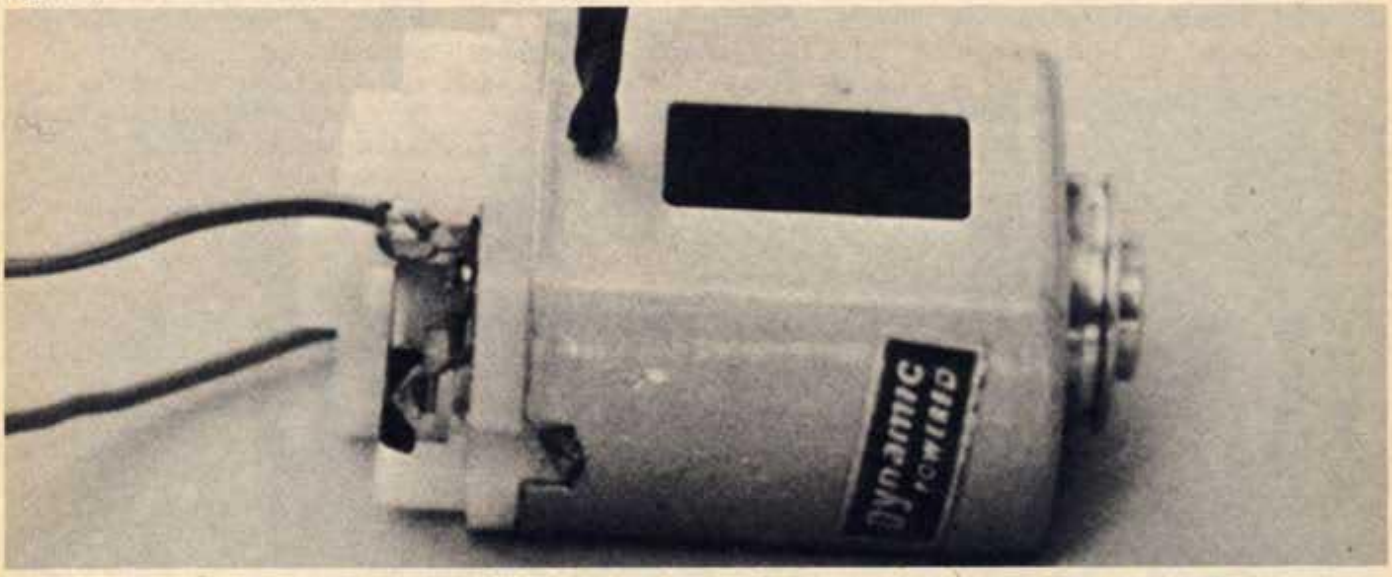
We can promise you this much: the requirements for the future HOCCI meets will have you up late preparing your car to make it legal, *and it just will not run if it does not comply.* We want no thingies in HO. Not even semi-thingies.

We will back up HOCCI's Public Relations man who was quoted, "Mail-ins are distasteful to most, ourselves included, but they are a necessary evil right now."

HOW TO REWIND MOTORS

Place the armature vertically in an oven set at 200 degrees, for 10 minutes, to "cure" the epoxy.

After the epoxy has thoroughly dried, mail the armature to one of the better balancing services.

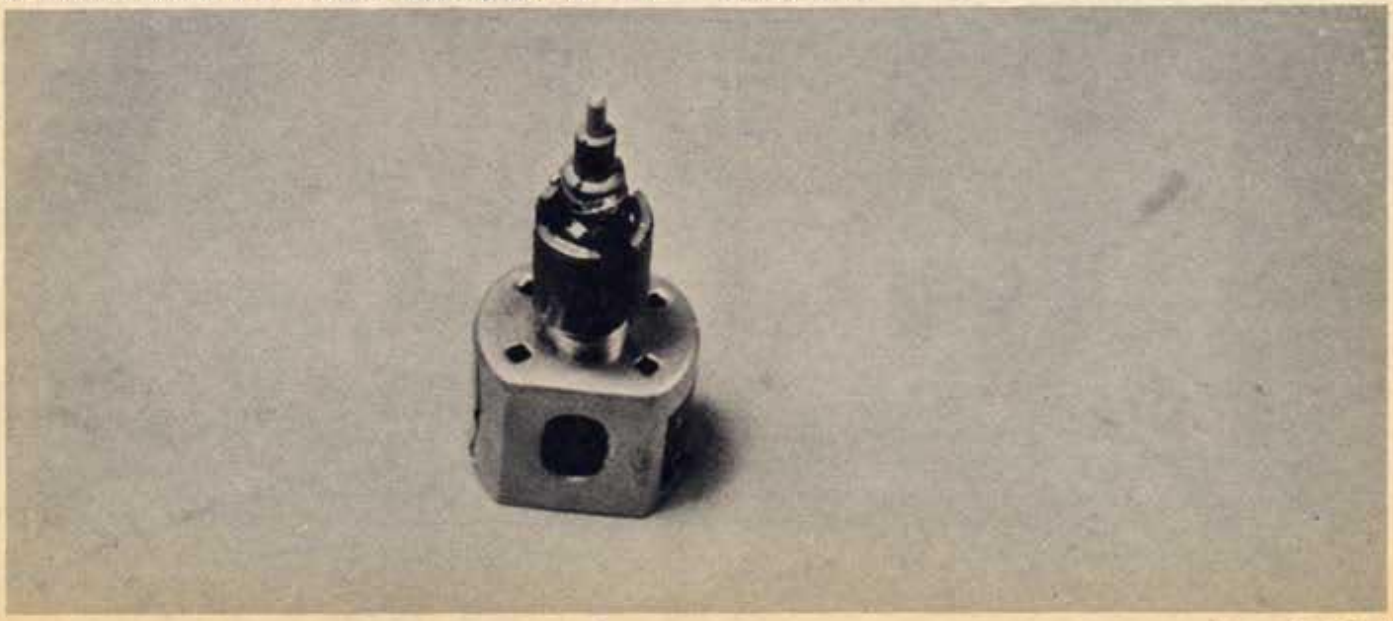


Be sure all parts are surgically clean. Insert the armature shaft into the case bearing. Slip the plastic end bell in place and fold the retaining tabs down. The shaft should turn freely with your fingers. Drill a small hole on both sides of the motor case, as shown. Install a small, self-tapping screw. This will positively "anchor" the end bell.

Install new brushes and springs. Heavy duty units are best, and readily available at reasonable prices.

Place a drop or high speed oil on both bearings.

Solder new, flexible competition motor leads to the motor lugs.



RAPID ROMEO

Capture the thrills and romance of a racing machine from another era — in HO scale

HO racing fans are fortunate, in that they can buy a ready-to-run model of most of the sports cars and sedans that are currently popular. The historical, or "classic" racing cars are sadly neglected. True, the Atlas Mercedes, Ferrari, and Allard, and the Tyco Ferrari, and "D" Jaguar are now considered "classic" but these are all cars of the 1950's. The more fascinating and unusual cars of the time before World War II are just not available. So, we'll make some! It's a good opportunity to make a change, from the simple HO ready-to-run, to an HO model that you can *build*.

The real Alfa Romeo is an undisputed classic racing car. It first appeared in 1932, at the Italian Grand Prix, which it won! The fantastic little racer lost only two races that season, and in 1933 the cars were all sold. During the later part of the 1933 season the cars were raced by the Ferrari racing team. At this point in history, Ferrari was not a manufacturer, but a very successful team manager. The P3 was modified, during 1934 and 1935, in an effort to compete with the Mercedes W25's and the Auto Union "P-Wagen". The fantastic German cars triumphed over all during these years, except at the 1935 German Grand Prix. Driven by the Greatest driver of the period, Tazio Nuvolari, the Alfa Romeo was able to beat the Germans on their home ground. Hitler, whose interest had helped to finance the Auto Union and Mercedes cars for "the glory of the Third Reich" must have had some restless nights after that race!

This HO Mercedes is based on the new Renwal "Showcase" series of plastic display model kits. The series is a constant 1/48 scale, which is roughly twice the size of accurate HO (HO is supposed to be a constant 1/87 scale, but most HO cars are scaled to fit a particular chassis, rather than to exact dimensions). Fortunately for us, the older racing cars were rather narrow, so most will fit right in with the rest of your HO racing stable.

The essential idea behind the construction of the P3 Alfa Romeo model is the use of the Tyco motor, which is not a permanent part of the chassis like most other brands, with the Renwal frame serving as the chassis. The rear bearings must be reinforced with brass tubing bearings to withstand the torque of the motor. The front bearings are strong enough for the light weight of the HO scale cars, without modification.

If you follow the photos carefully, and fit the motor to the frame cutout exactly, the Tyco motor will not have to be epoxied to the chassis, nor will the body have to be glued to the chassis.

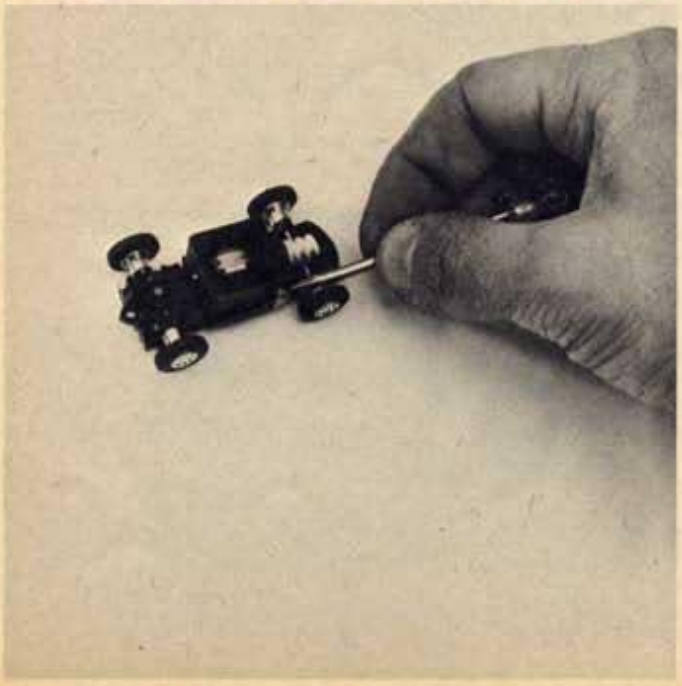
The motor connecting wires, and an accurate fit, hold it in place, and the body is held on by a jam-tight fit over the top of the motor. In other words, the motor and the chassis almost seem to be designed for each other.

There are a number of other "classic" racers that can be easily assembled in HO. One of the photos shows a Bugatti in the background. The Bugatti was adapted from a MATCHBOX cast metal toy. If you are interested in these "classics-in-HO" send us a letter and we'll show you more.

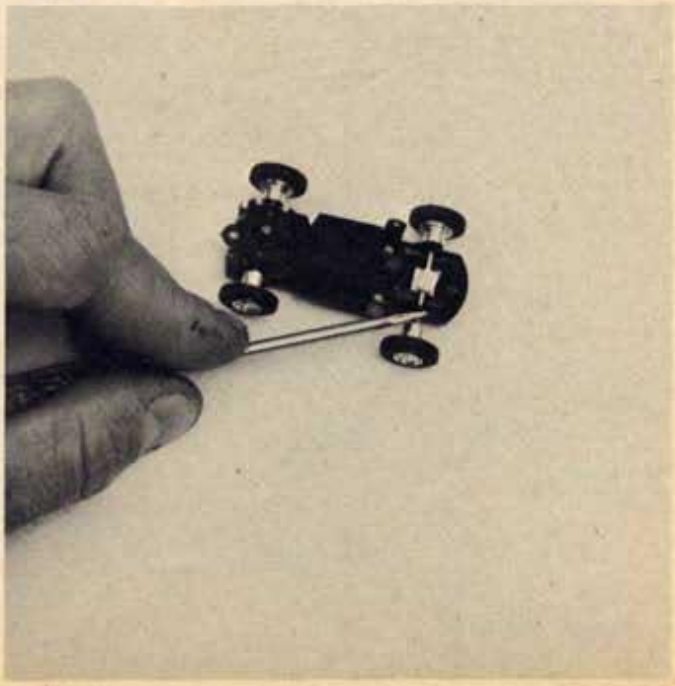
Renwal's new "Showcase Series" of inexpensive plastic shelf model kits gives the HO enthusiast an opportunity to build and race some of the true "classics" of automobile history. All you need is an HO Tyco D-Jaguar, a piece of 1/16 inch brass tubing, a pair of "O" rings (Gardena Rubber #GR44 or similar) that are sold at all hardware stores.

Remove the two assembly screws, body, and chassis weight from the Tyco Jaguar. Save the body as a spare for your racing set.

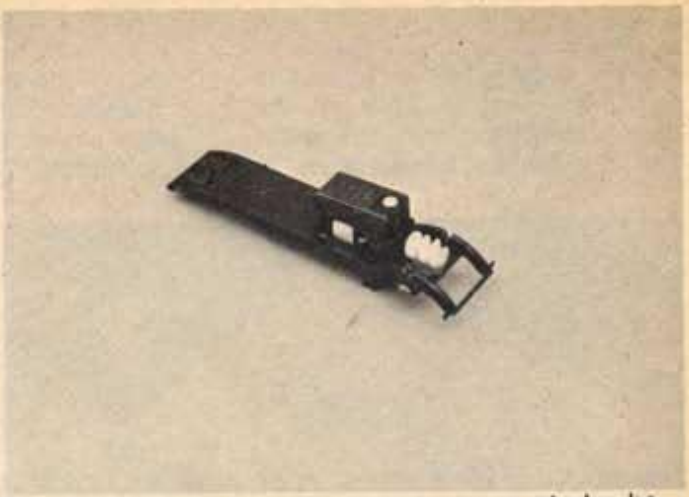
Lift the copper retaining tabs, on the side of the chassis, so the motor can be lifted from the chassis.



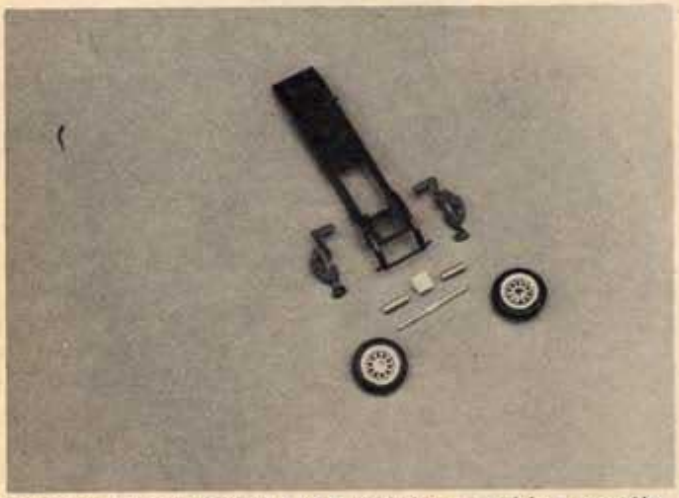
Carefully pry the front and rear wheels off the chassis. Push both front and rear axles out and set them aside.



The axle hole in the rear springs of the Renwal Alfa Romeo, must be enlarged to fit the 1/16 brass tubing.



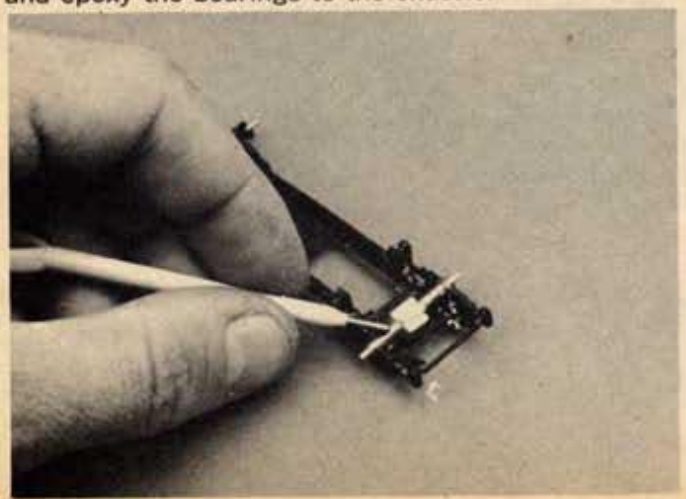
The notch on the bottom of the frame must also be enlarged to fit the 1/16 inch brass tubing.
Enlarge the holes in each of the rear wheels with a #56 size drill. Trim the smaller ring from around the hole.



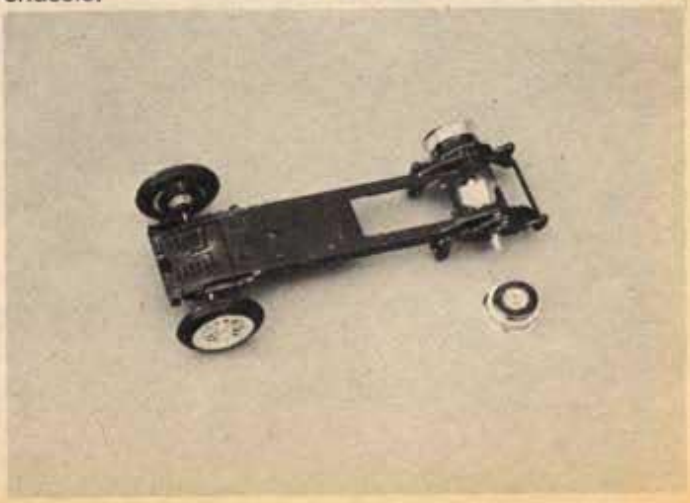
Cut two pieces of the 1/16 inch brass tubing exactly ¼ inch long. File the ends smooth. These are the rear axle bearings.

Use the Tyco motor as a guide to cut a rectangular hole in the chassis. Make it exactly the size of the side of the motor. The second, smaller cut is for the gear. Fit the motor into the hole in the chassis, and check to see that the gear is free to turn. A small notch must be filed to clear it.

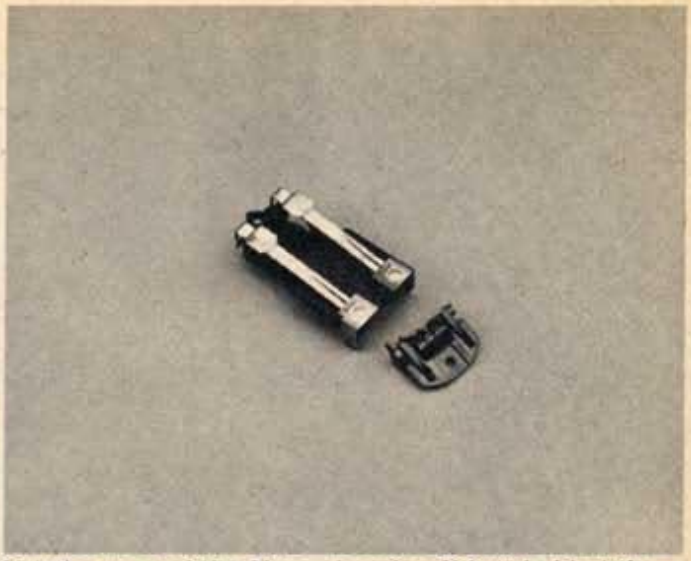
The rear axle parts include: the frame, springs, 1/16 tube bearings, Tyco axle gear, Tyco axle, and the wheels.
Place the gear on the axle, then each of the bearings. Center in the chassis, leaving 1/64" side play, and epoxy the bearings to the chassis.



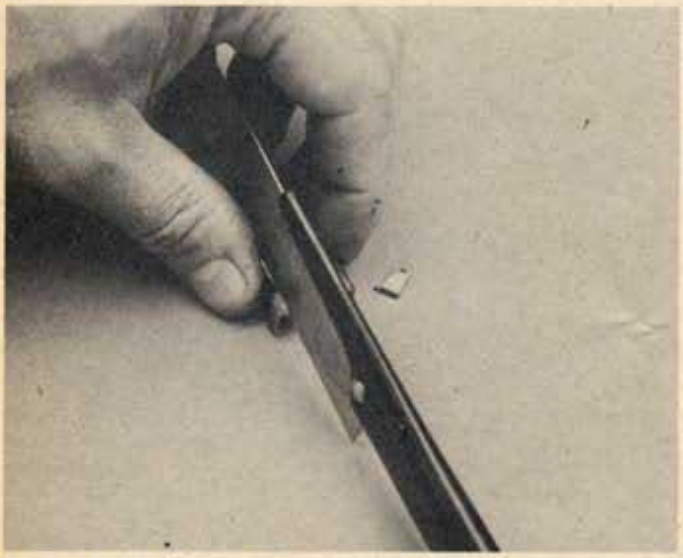
Assemble the front axle and springs exactly as outlined in Renwal's instructions. The plastic chassis makes a good enough bearing for the front axle.
The rear wheels can now be pressed on to the axle. Leave a small clearance between them and the chassis.



Coat the edge of the rear wheels with Pliobond cement and install the #GR44 rubber "O" rings for the rear tires.



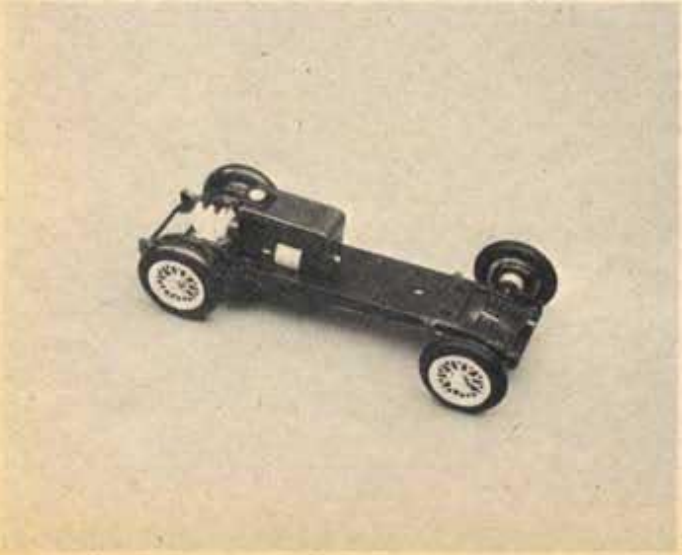
Cut the rear of the Tyco chassis off just behind the copper brushes. We'll use the rest of the chassis as a pickup.



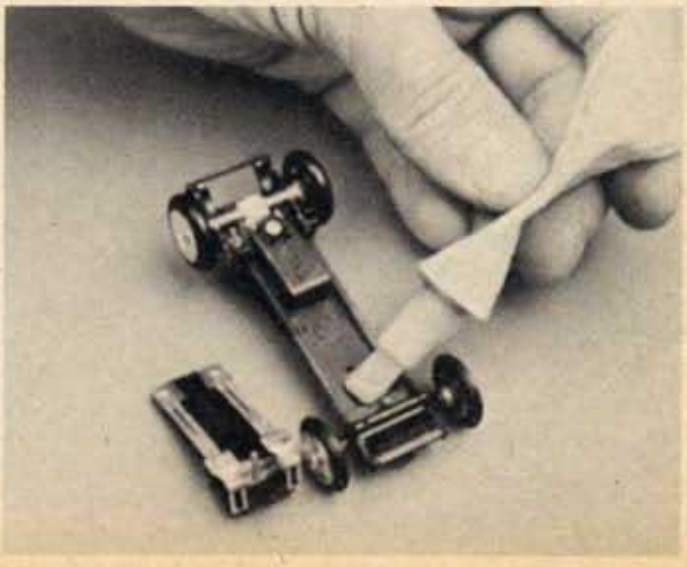
Trim off the copper tabs that originally held the motor, and 1/16" from the edge of the chassis.

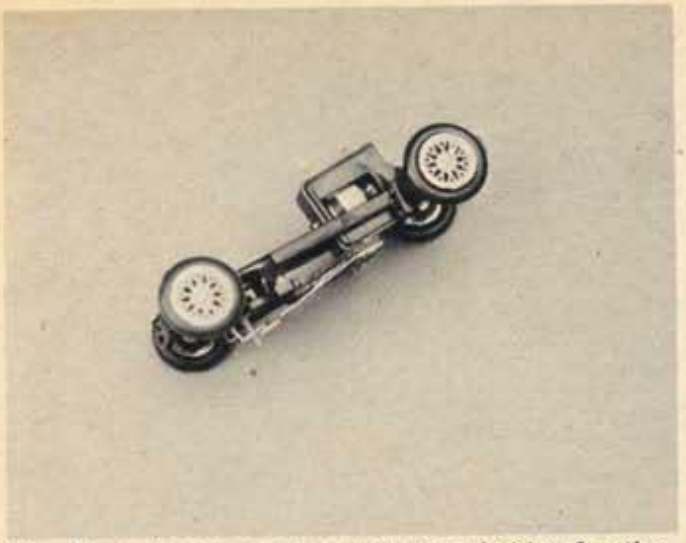
About 3/32 inch of the round tab on the top of the Tyco chassis will have to be cut away.

Mount the Tyco motor permanently in the chassis and check to be certain that the gear is free to turn and that it meshes properly with the axle gear.

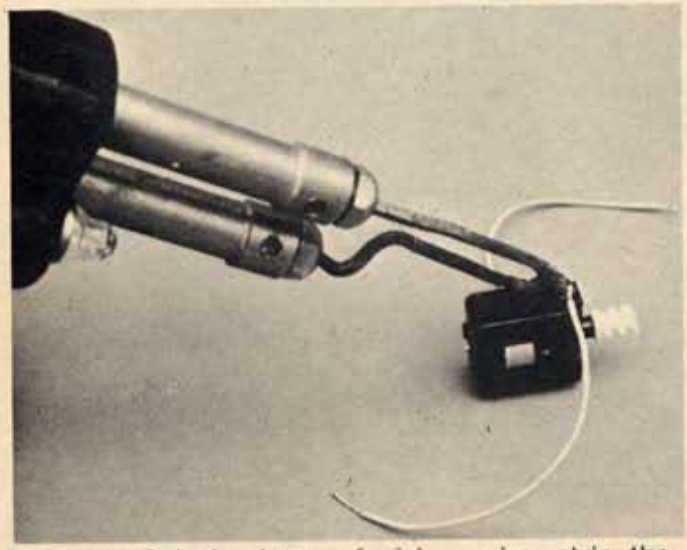


Apply a large dab of epoxy to the bottom of the Renwal chassis and position what's left of the Tyco chassis on it.



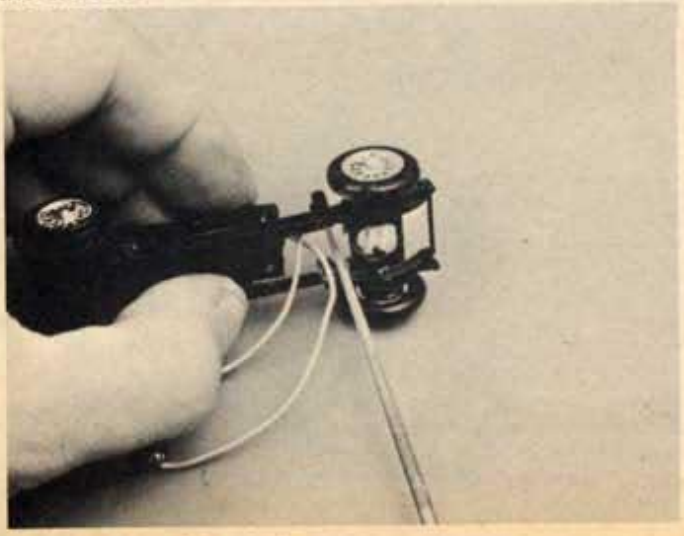


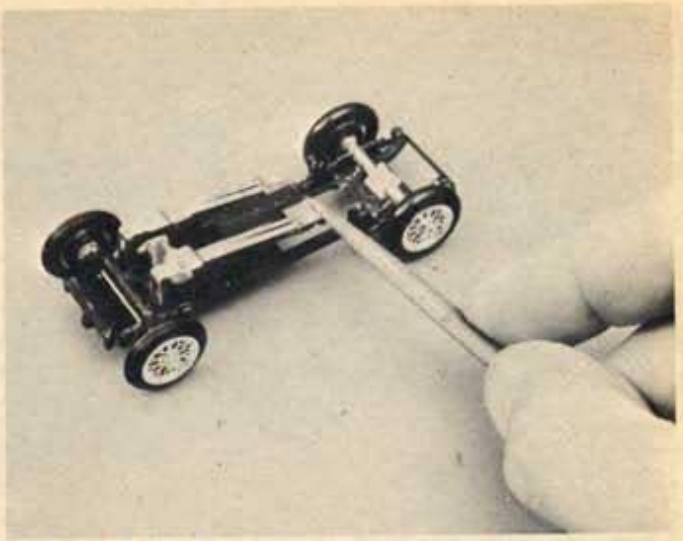
The Tyco chassis serves only as a holder for the brushes and pickup pin. Note that the Tyco brushes just clear the back of the front axle. The pickup brushes must be bent so they lay flat on the track surface. Check the chassis on a section of HO track so the wheels touch the track.



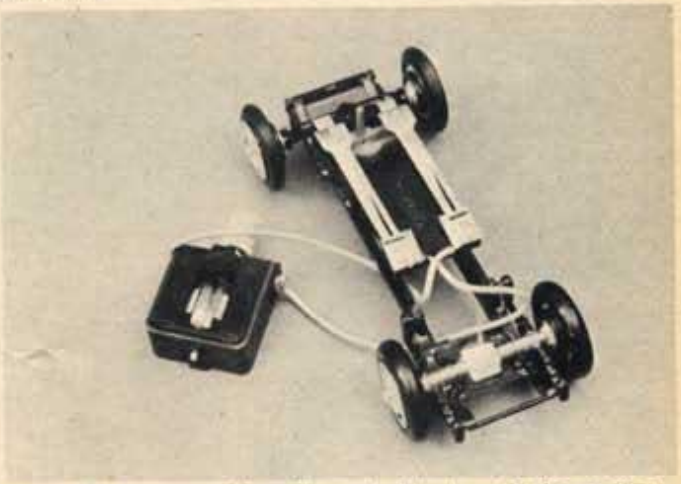
Cut two, 2 inch pieces of pickup wire, strip the insulation from ⅛ inch of each end, and solder to the motor.

File a couple of notches, in the sides of the motor mounting hole, to allow the motor wires to lie beside the motor. They'll also help to wedge the motor in the chassis.





File the motor brush holder and also the bottom of the pickup assembly rivet and then apply a dab of solder.



Bring the motor wires through the top of the motor mounting hole in the chassis and solder to the pickup assembly rivet.

Try the performance of the chassis on your HO track. If the car runs the wrong direction, the motor wires will have to be reversed.

Assemble the body. Leave out the interior pieces for now. **Letra-set** brand dry transfer numbers can be used to add an extra touch of realism. The body is a press fit over the Tyco motor. Place a couple of strips of masking tape inside it to wedge it tighter. Do not glue it on. The seats, dashboard, and steering wheel can be trimmed to fit between the motor and the body to detail the interior. A Corgi brand spectator figure can be trimmed down, and painted to provide a driver for the Alfa Romeo.

PALM-SIZED POWERHOUSE

Hot on the heels of their new 11 ounce, heavy-duty Moto-Tool (reported on in the December, 1967 issue of MC&S, comes yet another updated Moto-Tool from Dremel Mfg. Co., Racine, Wisconsin, the #260. This compact (just 6½" x 1½") 9 ounce powerhouse delivers 30,000 rpm with nearly unbelievable torque. It's probably one of the most powerful, for its size, electric hand tools ever built.

The power comes from a revolutionary new permanent magnet motor, packing more than twice the power of the previous Model No. 1 or No. 2 Moto-Tools, which were actually masterpieces of engineering. The torque drop-off is so gradual that it's extremely stall resistant.

It's as easy to use the new #260 Moto-Tool, as it is to write with a ball point pen. Truly intricate work is a snap. A hanger hook and finger grip extension is built in, for extra convenience too.

The electrically welded armature is dynamically balanced for vibration-free operation. Large air vents and a high velocity fan assure cool operation. This mechanism is enclosed in a streamlined Lexan case that is virtually unbreakable under normal use. A unique full-wave diode rectifier circuit permits the motor to operate on standard 110 volt alternate current, but feeds only direct current to the motor. A fully oriented ferrite permanent magnet stator replaces the wire windings of the conventional stator usually found in a series-wound motor. This solid state electronic principle has been commonly used in the field of space flight, but never before used in an electric tool of this size. The result is a motor that runs cool and efficiently, with amazing torque. Ounce for ounce, it's the fastest, most powerful electric hand grinder ever built. No oiling is ever needed either, thanks to the use of oilless bearings.

A nearly endless range of accessory bits is available too. The great Dremel drill press, shaping table, and universal stand can be used with the new #260 Moto-Tool, by purchasing inexpensive adaptors.

You can get the full dope on the entire Dremel line, by checking their ad in this issue. If you're a model builder, you just can't make a better purchase than one of these fine tools.

ACTUAL SIZE

It's difficult to improve on a nearly perfect product, but the Dremel guys found a way

NO. 260 MOTO-TOOL ONLY with ⅛" collet and collet wrench **$22.95**

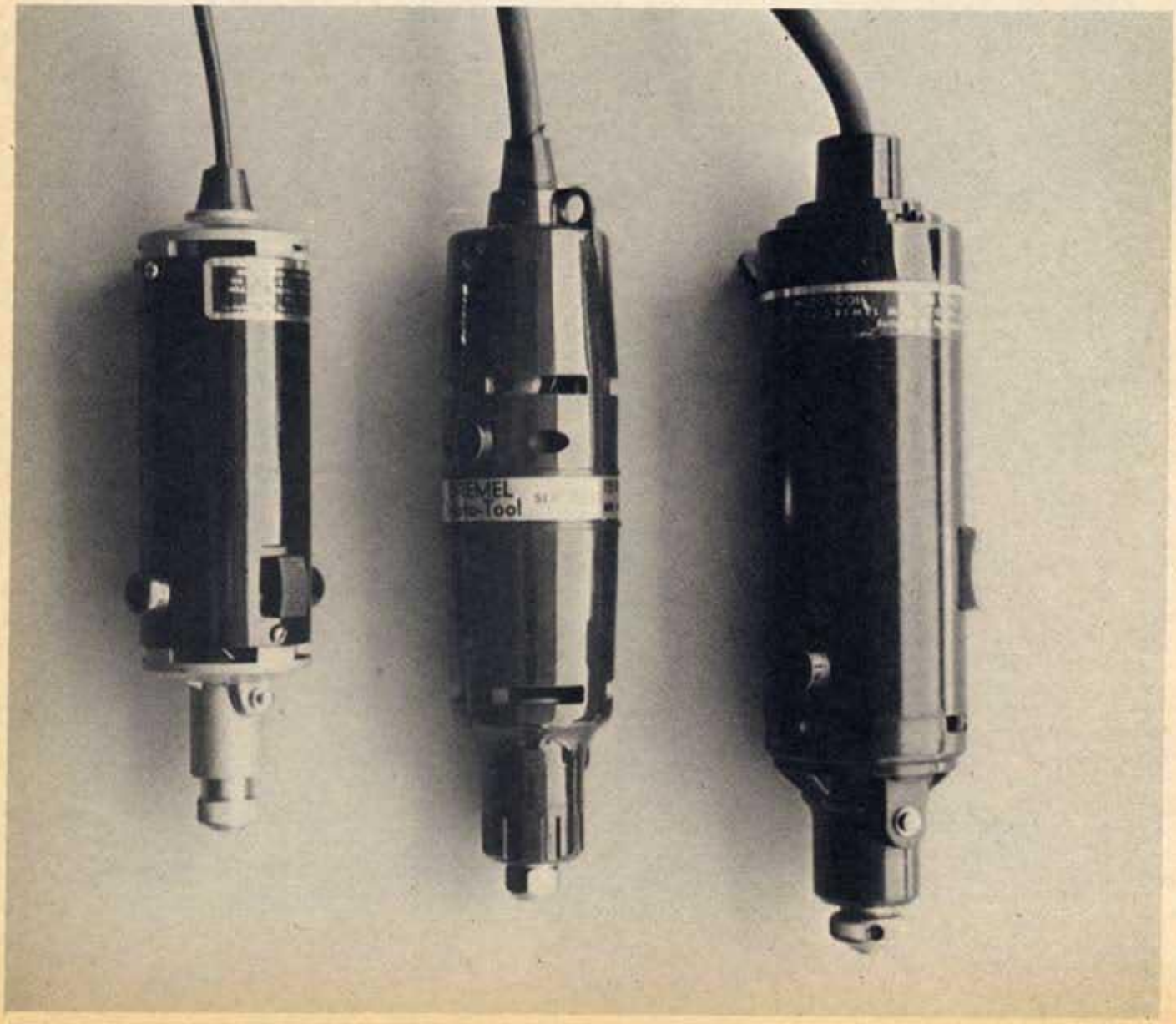
NO. 261 MOTO-TOOL KIT complete with No. 260 Moto-Tool, 34 accessories including: high speed steel cutters, grinding wheels, wire and bristle brushes, rubber polishing tip, sanding discs, drum sander and sanding bands, mandrels, dressing stone, finger grip extension, collet wrench, ⅛", 3/32", 1/16" and 1/32" collets in molded polyethelene case **$32.95**

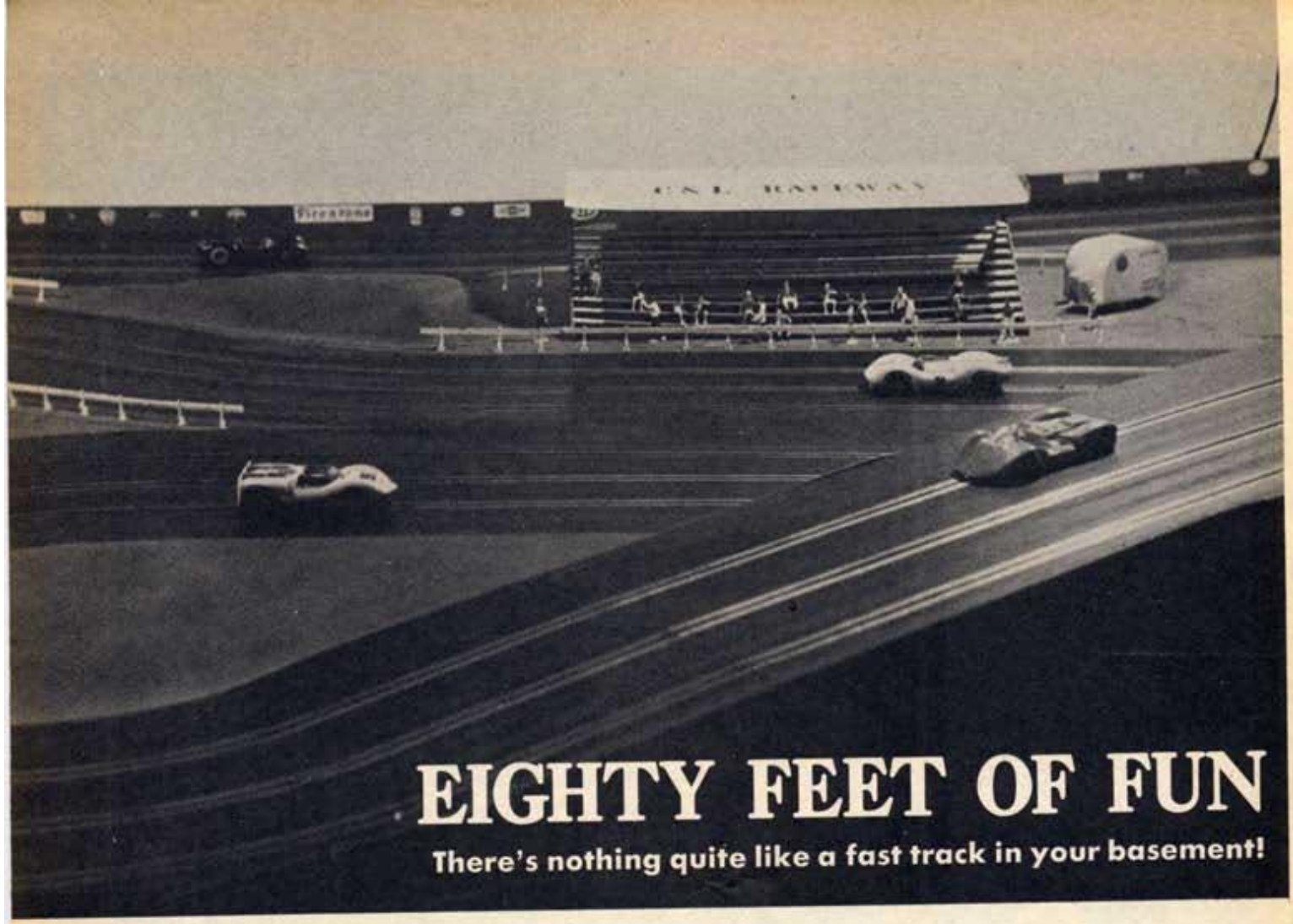
SPECIFICATIONS

MOTOR — .5 amp., 115 v., 60 cycle AC
SPEED — No load speed, 30,000 rpm
HOUSING — Sturdy, shockproof Lexan
CORD — 6 feet, 3 conductor cord
BEARINGS — Oil impregnated, bronze bearings
COLLET SIZES — ⅛", 3/32", 1/16", 1/32"
WEIGHT — Moto-Tool only, 9 ozs. Complete kit, 2½ lbs.
SIZE — 6" x 1½"

The new Moto-Tool fits comfortably in the hand. The finger grip extension is shown in place. Great for doing intricate model work.

The new #260 Moto-Tool (center) is a trifle larger than the old #1 model it replaces (on the left) but smaller than the old #2 model (far right). It's more powerful than either one! Total weight is just 9 ounces.





EIGHTY FEET OF FUN

There's nothing quite like a fast track in your basement!

The beautiful track you see on these pages was constructed from information gleaned from past issues of MC&S. It was built by Dennis Lemke, William Lemke, and Bob Colmerauer, from Orchard Park, N.Y. The trio tagged the layout the "C&L Raceway." They built the entire layout, for $100! Ingenious, these Yankees.

Originally the track was 8′ x 18′ in an "L" shape, with three lanes for 1/24 scale racing. The club members recently enlarged it to a lap length of eighty feet. The track surface is 3/8″ plywood with routed slots. Copper tape is used for conductor, and the surface is covered with blackboard paint. The power is supplied by a twelve volt battery with a six amp battery charger. HO lap counters (Aurora) were converted for use on this big layout, and they work well.

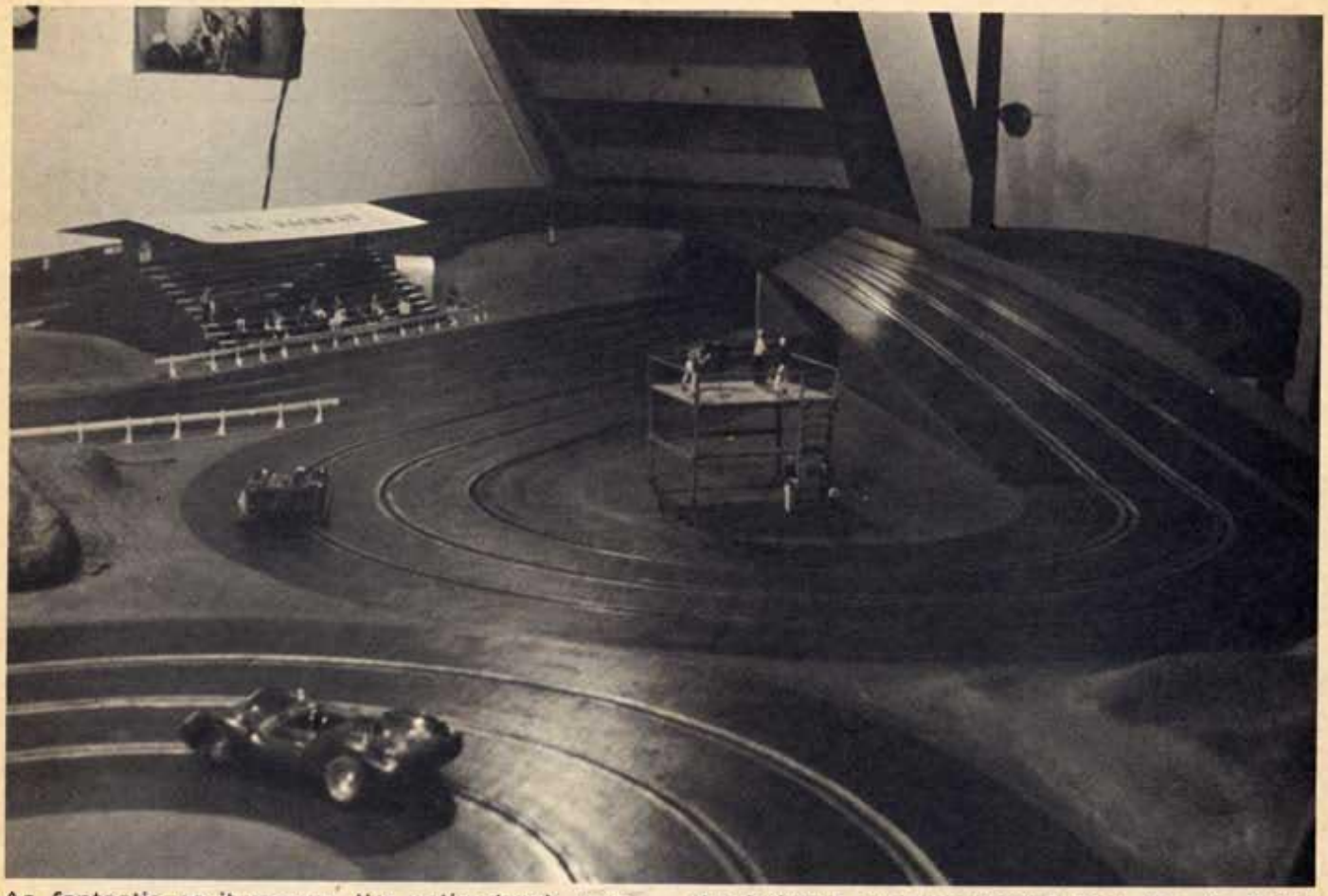
The members report that the scenery was almost as much fun to make as the track itself. The pictures on the walls, and the advertisements were collected from old magazines, and glued on. The fence is from an old Eldon set, and the buildings were made of balsa wood. Mountains are paper mache over wire screen. The little people are Monogram's excellent 1/32 scale figures.

Most of the cars are scratch builts. "Candies" with castor oil or closed cell spongies dipped in STP and soaked in wintergreen oil, give the best traction.

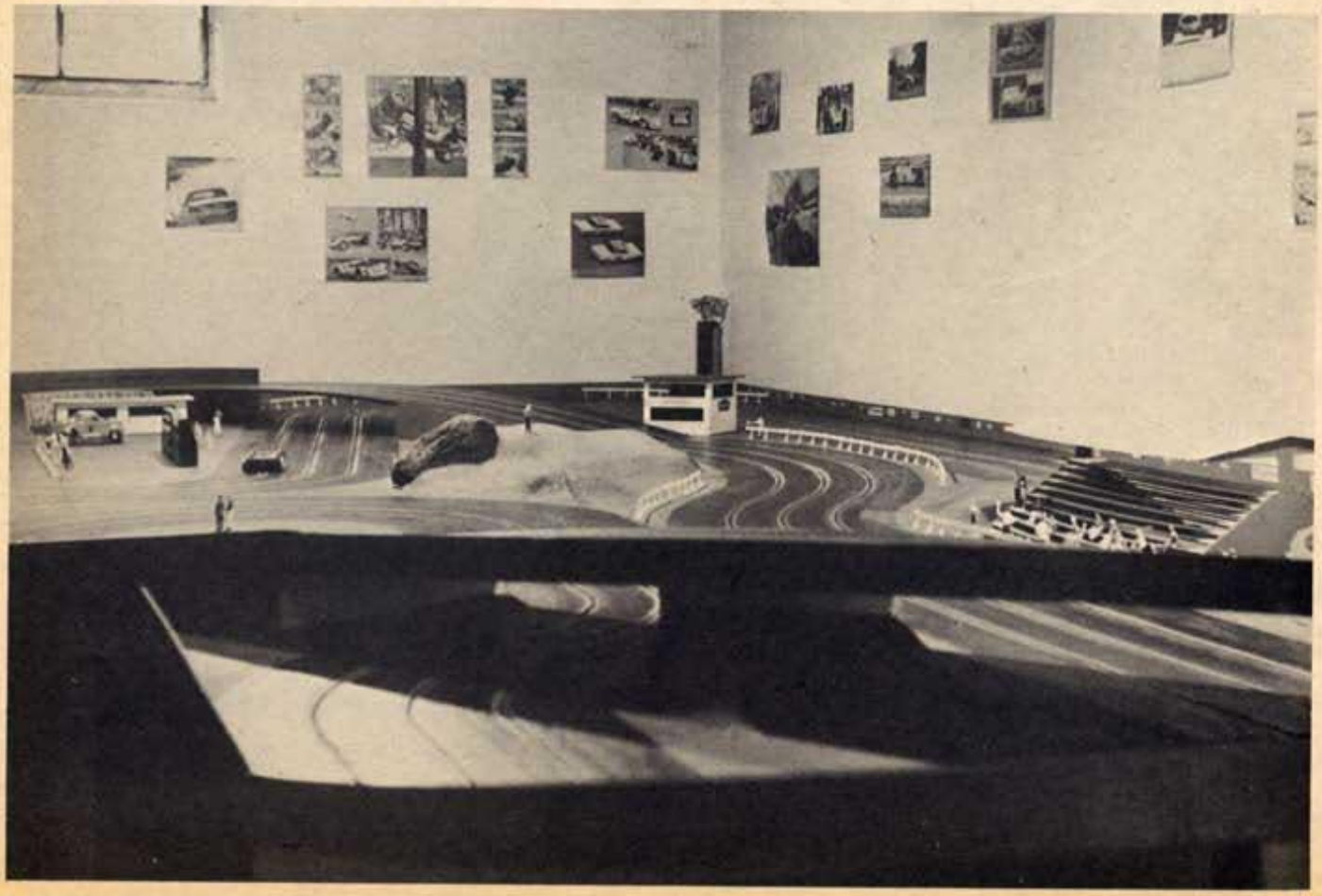
The fellows are contemplating another expansion in the near future. They want to make the track two levels high!

Congratulations fellows. If you don't belong to NAMRA, we suggest you join, (see page 62) and register this beautiful track. And we're giving each of you a one year subscription to *Model Car & Science*, for sending us photos and a description of your track.

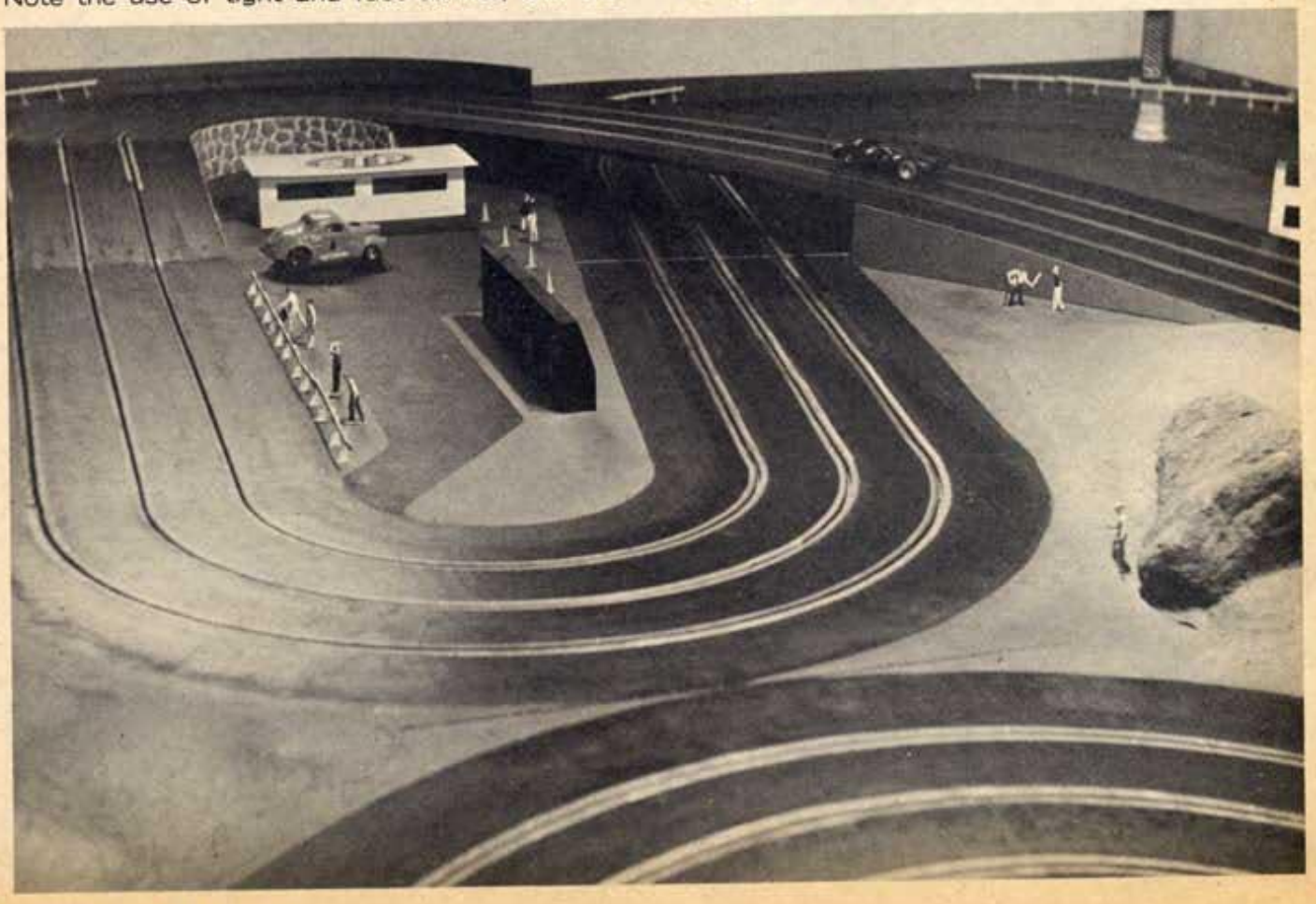
Aurora lap counters are used, and they work very well indeed on this 1/24 scale home layout. The surface of the track is painted with blackboard paint. Copper conductor is used.



As fantastic as it seems, the entire track was built for $100! Shows what can be done when the builders are resourceful. **You** can do it too fellas!



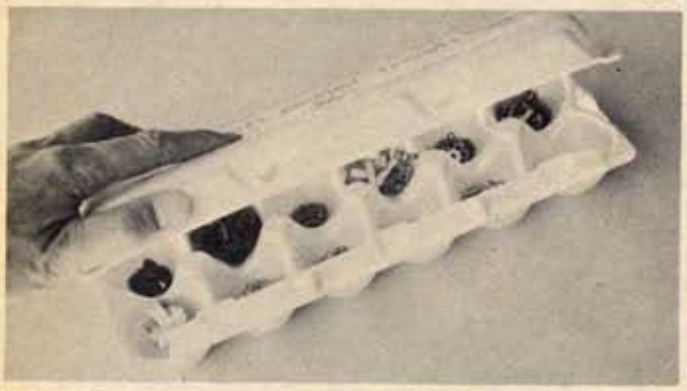
This delightful home layout is a driver's dream. Note the use of tight and fast curves, and the elevation changes. The track is anything but boring to drive!



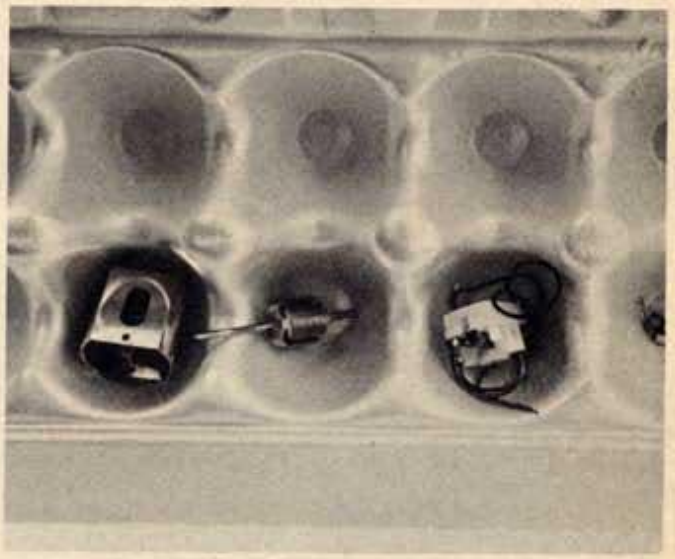
THE BUFF'S BUDGET CORNER

BEATING THE HIGH COST OF RACING

A common egg carton can be utilized as a parts box. Each compartment makes an ideal parts bin. Leave the top of the carton on, and close it when not in use to keep dust out. The cost? Nothing.



When working on slot car motors, the carton is great for keeping those small motor brushes, springs, commutators, etc., organized and protected.



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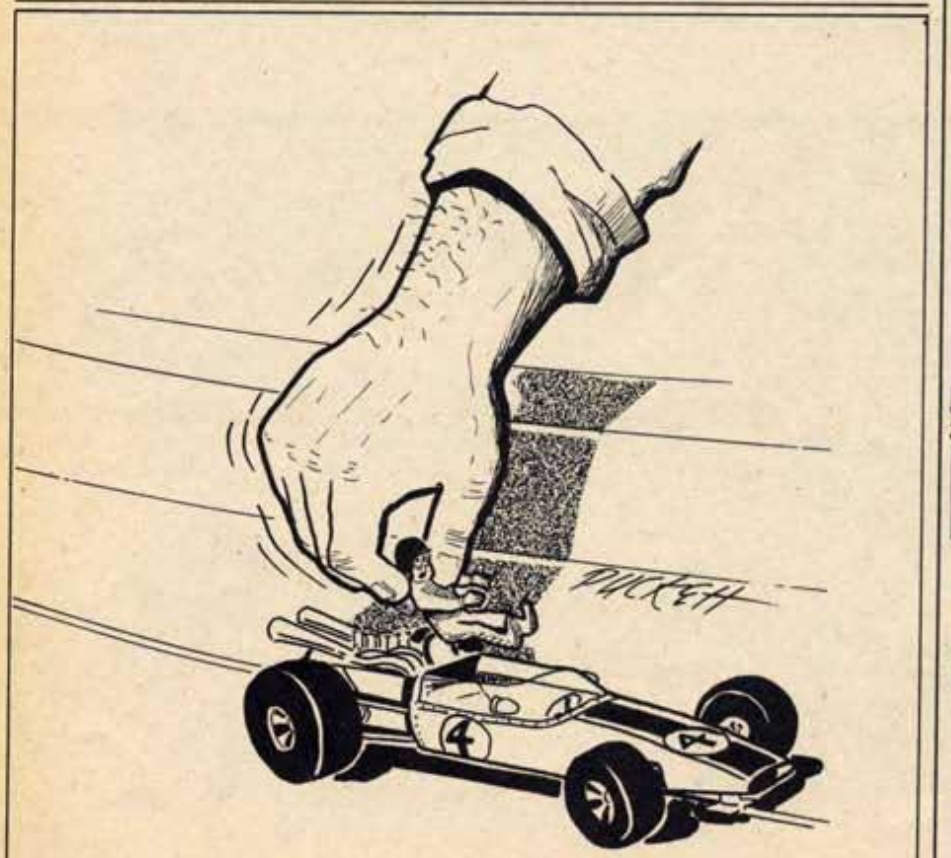
"If you're using that old controller in the enduro, better also use this ice filled rubber glove!"



"Stop you clod! You can't put a 1/32 scale driver in a 1/24 scale car!"

Mail Order Machine Shop

Here's a complete special tool design service, at your service By George Siposs

Have you ever had an idea but couldn't try it out because the local machine shop charged too much for making up the parts? Have you ever dreamed about having a complete set of tools for tire trueing, wood turning, or punching holes in sheet metal? Lack of money is no problem any more. Now you have a friend on your side!

The hobbyist's best friend is G. Hobby Products of New York City, a small but dynamic machine shop ready to serve your needs.

George Dakides is a long time hobbyist himself. He felt that there was a need for a small machine shop that could produce parts for the home builder of hobby projects — parts that were described in magazine articles but that were just too difficult to complete in the average garage or kitchen table.

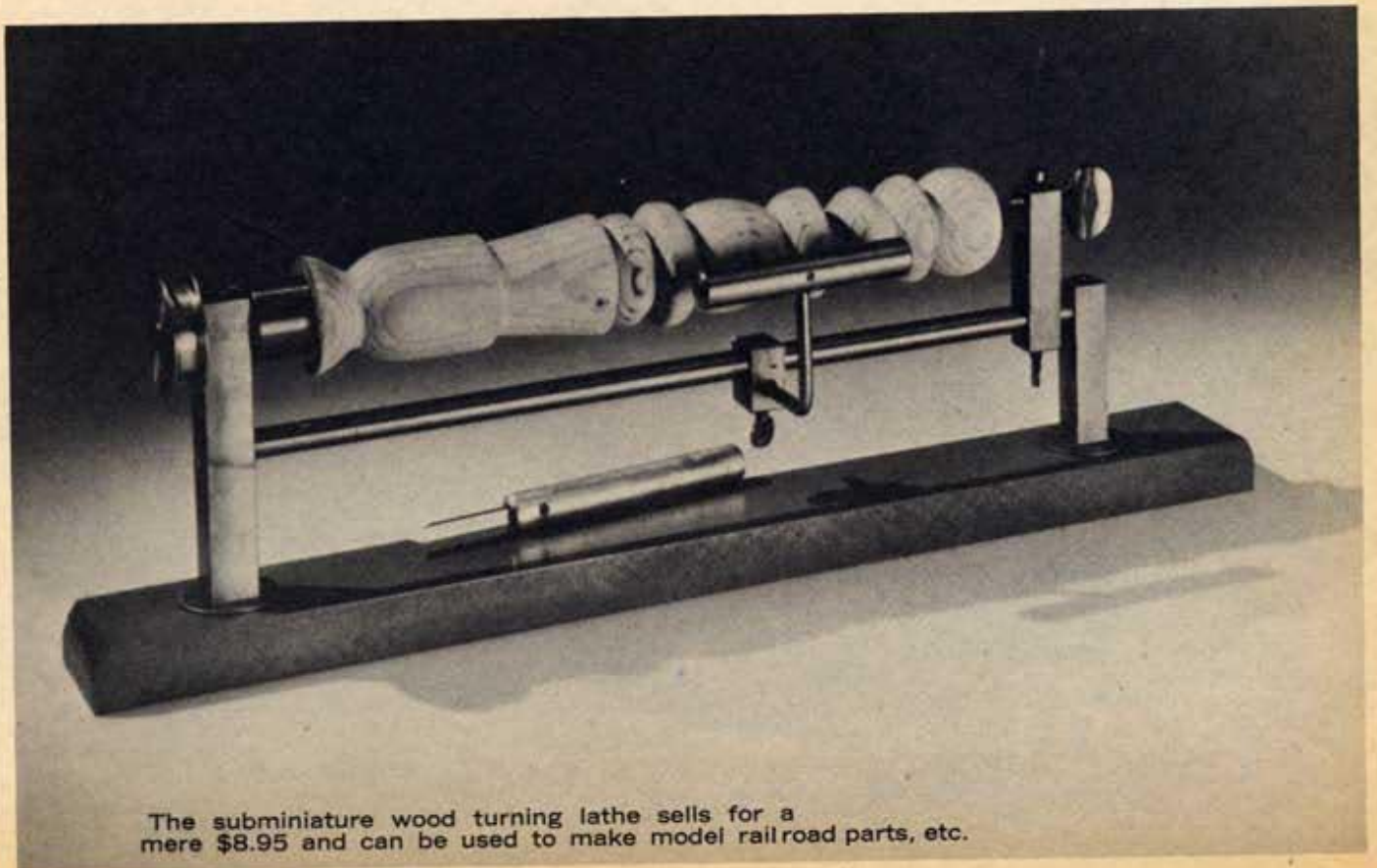
The average inquiry coming to G. Hobby Products, Dept. MCS, 271 East 10th St., N.Y., N.Y. 10009, asks for a quotation on a certain part that was described in a hobby magazine.

Upon receipt of the quotation the hobbyist then decides to proceed with the project and purchases the difficult-to-make parts from G. Hobby Products.

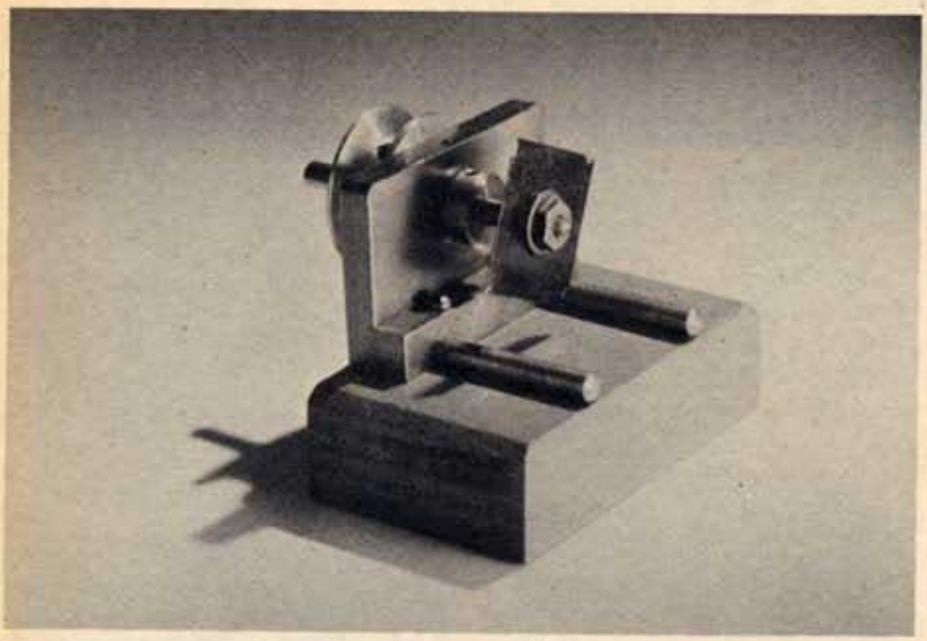
They also have several ready made items for those wishing to equip themselves with simple but efficient machine tools. One such thing is a subminiature wood turning lathe which can be driven by an electric motor.

Other interesting ready-made items are a subminiature rotary saw, a punch and die set for making holes in sheet metal chassis, screw center for making rocket or airplane nose cones, a slot car tire shaper, electric motor gear puller, adjustable gear puller for larger gears and an arbor press. These devices are carefully made of strong steel and can be used immediately after you receive them in the mail.

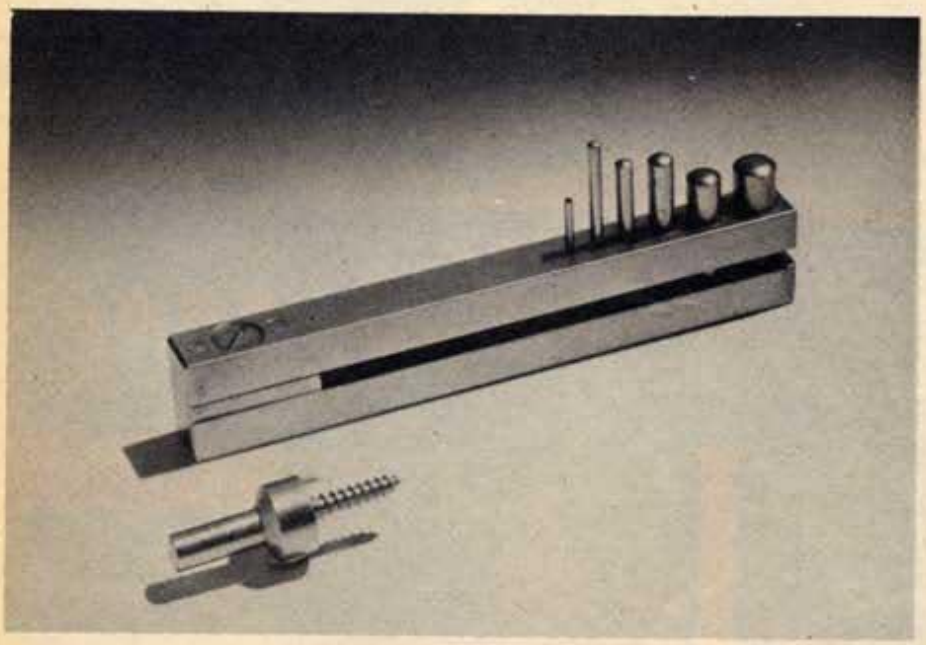
If you have a project going that requires a complex part that you cannot make, it might pay you to give G. H. P. a call or drop them a postcard. You'll find them very friendly, indeed.



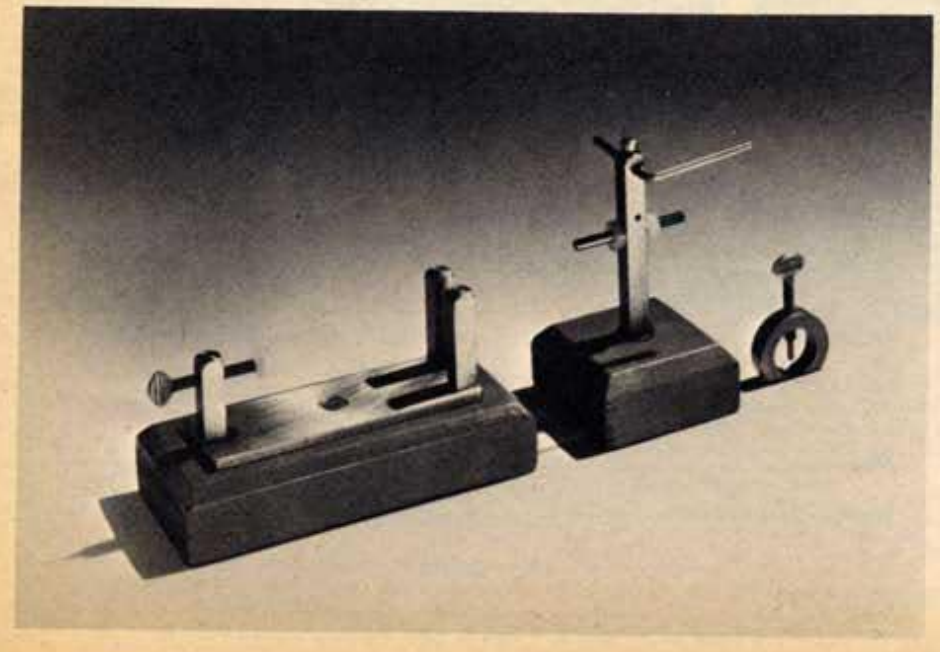
The subminiature wood turning lathe sells for a mere $8.95 and can be used to make model railroad parts, etc.



The rotary saw is powered by an electric hand drill and can cut balsa or pine up to 3/8" thick by 7/8" wide. $3.55.



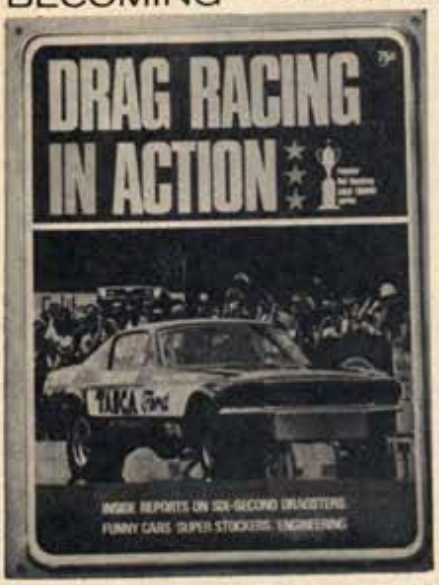
Another unusual item from GHP is the Punch and Die set for 1/16", 3/32", 1/8", 3/16", 1/4", 5/16" holes. Screw center is used to turn nose cones, etc.



The arbor press (left) is used to press gears to motors. The item in the center is a tire shaper, that on the right is a gear puller.

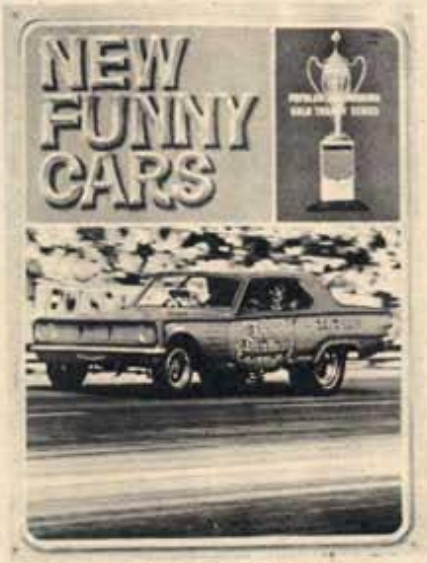
THESE MAGAZINES ARE RAPIDLY BECOMING

RARE COLLECTORS' ITEMS!



DRAG RACING IN ACTION

75c



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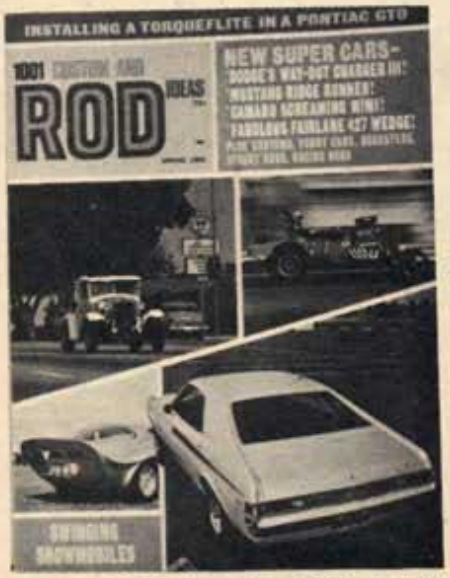

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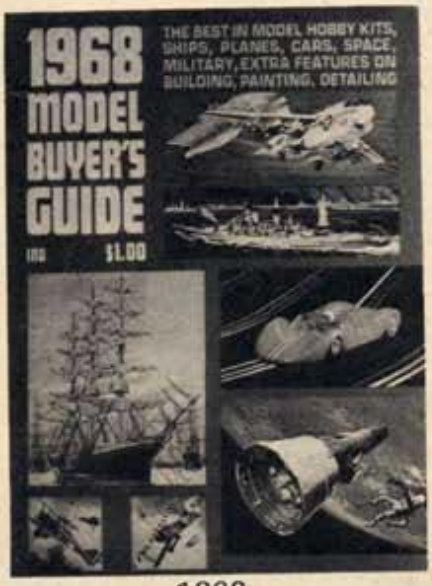

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